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# The Need of Organic Matter In Fertilizing Citrus Trees

By E. F. DeBusk, Extension Specialist in Citriculture College of Agriculture, University of Florida  
at Meeting of Florida State Horticultural Society

From the beginning of citrus fruit cultivation in Florida it has been a general practice to supply organic matter to the soils of citrus groves by growing cover-crops and applying various green manure crops and animal manure. Records show that back in the eighties and nineties it was quite a common practice by leading growers to haul into their groves leaves, leaf-mold muck and other organic materials, in addition to what could be produced by the growing of cover-crops in the grove. This art seems to have been lost in a measure at least when the planting of groves was extended to the light Norfolk sandy soils of the central and southern part of the State but the practice is being revived again all over the citrus belt. At the present time growing organic matter is given a definite place in every rational plan of grove management. Many of the most successful growers are producing in their groves as much tonnage in cover-crops as their condition will permit and in addition, hauling into their groves from other lands as much coarse organic material as it is economical to supply under the particular conditions.

No thinking grower doubts the need of organic matter in our Florida citrus soils. However, with the rapid trend toward a more general use of the synthetic nitrogen compounds, encouraged by low cost and



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satisfactory results from their uses; and with the facts of the nitrogen-source tests being conducted at the Lake Alfred Citrus Experiment Station available to growers in which tests, Nitrate of Soda and Sulphate

of Ammonia are proving to be preferred nitrogen compounds for citrus fruit production, there is perhaps some danger of being misled as to the need of organic matter in fertilizing citrus groves. It is with that thought in mind that this short paper has been prepared.

Fortunately, along with this trend toward a more extensive use of the inorganic nitrogen compounds in fertilizing citrus groves, the practice of growing heavier cover-crops in the grove is becoming more general. Growers are giving more consideration to the real value of a cover-crop and attention is being turned toward supplying even more coarse organic matter than can be grown in the grove in the form of a cover-crop.

This trend toward the production of a more adequate supply of organic matter in the grove from year to year is accompanied by certain modifications of the whole culture program. The practice of keeping the ground of the grove clean throughout the year no longer has anything to recommend it, except insofar as it is applied to a strip along the tree-row of young trees for the first few years. Even there, under certain conditions, cultivation is being replaced economically by heavy mulching around the trees. The general tendency is to do less cultivating, particularly of bearing groves. This is bas-

ed on sound principle, looking at it from a soil fertility standpoint. According to Barnett, one of the principal reasons for cultivating the heavy soils of the north, namely to increase nitrofication, becomes the main reason for not cultivating the sandy citrus soils of Florida. Cultivation increases the rate of decomposition of the organic material and consequently often results in waste of both organic matter and nitrogen. Our main reason for cultivating is to conserve moisture during the dry season by keeping down weeds and grasses. Irrigation is in a measure, replacing cultivation and making practicable growing of cover crops over a longer period and consequently the annual production of a greater tonnage of organic matter in the grove.

How much of this bulky organic material does a Florida citrus grove need to the acre and what are the ways of supplying it? This is a good question that often comes up for discussion. In answer to the first part of the question I must say I have never seen too much of this organic material in a citrus grove. I have seen more than ten tons of hay-dry crotalaria produced per acre in a young citrus grove with the best of results. In many instances growers have hauled into their groves a much greater tonnage with the most satisfactory result. In a recent grove management survey in one of the leading orange producing counties in California it was found that 15 to 18 tons of coarse organic matter per acre annually was used by the most successful growers. While in grapefruit groves in Arizona up to 35 tons per acre is being applied. The bacterial decomposition of organic matter in our light sandy soils is very rapid, owing to their porous condition, high temperature, and heavy rainfall. It would seem, therefore, that our citrus groves in Florida would be more greatly benefitted by frequent and heavy applications of organic matter than those on the heavier soils of the west. It is evident that the usual one-half to one ton of cowpeas, grass, or weeds, grown in a citrus grove in the ridge section is very inadequate in supplying organic matter. Occasionally we hear a grower say too much cover-crop, especially beggarweed or crotalaria, will cause dieback and ammoniation. This idea originates with the grower who tries to bury his cover-crop by turning it under with a big plow. Evidently it is the deep plowing-troubling the soil and roots of the tree—that causes the dieback and ammoniation, and not the cover-crop. In fact we find such citrus diseases as dieback, am-

moniation, splitting of fruit, frenching and withertip associated with a deficiency of organic matter in such a manner as to point rather definitely to this soil deficiency as an important contributing factor at least.

It might be worth while to stress at this point some of the functions of organic matter in our sandy citrus soils. Growers are aware of the fact that a cover-crop, when left to decay in the grove, supplies plantfood. The fact is generally recognized that through the growing of this cover-crop in the grove during the rainy season, water soluble plant-foods are taken up and prevented from being lost by leaching. These plant-foods are taken up and prevented from being lost by leaching. These plant-foods are returned to the trees when the cover-crop is decomposed and in addition the muck needed organic matter is supplied. If a legume is grown nitrogen is captured from the air and added to the soil in proportion to the virulence of the organisms in the nodules on the roots of the plant. It is also quite generally known that decaying organic matter is indispensable in supplying energy to useful soil organisms. In the low, wet lands growers recognize the advantage of an abundance of organic matter in the soil in overcoming the effects of inadequate drainage. More moisture is lost from a given area through direct evaporation from the soil than is used by the citrus trees. This enormous loss of moisture can be greatly reduced by covering the soil with a mulch of organic matter in the form of weeds and grass. Especially is this practice desirable in growing young trees where, in addition to conserving moisture and furnishing a continuous supply of organic matter, the cost of cultivating to keep down weeds and grass can be most important functions of organic matter, however, is not generally recognized among laymen growers. That is the part it plays in balancing the plant food in the soil. It is known that through the decomposition of organic matter the capacity of the soil water as a solvent agent is increased. Thus the insoluble mineral plant-foods, such as calcium carbonate, in-soluble phosphates and compounds of potassium and magnesium, are made available to the tree. The important thing, therefore, is not the so called balancing of the plant-food in a fertilizer mixture, but rather providing and maintaining a soil condition under which the citrus tree can take up the maximum amount of the plant-foods in the soil as they are needed. This soil condition can be maintained only by providing an

ample supply of organic matter and water at all times. These conditions are most closely approached in the best hammock groves of the State from which comes our fruit of standard quality and trees of greatest vigor.

Since the presence of decomposing organic matter in the soil is essential in maintaining conditions which enable citrus trees to use applied commercial fertilizers most effectively, every plan of grove management should provide for supplying an adequate amount of organic matter.

The plant-food cost constitutes thirty to sixty percent of the total cost of producing citrus fruits in Florida. About fifty-eight per cent of this represents the nitrogen cost. This being the case, it would seem that a legume cover-crop, one that captures nitrogen from the air, would be the most profitable to grow. This was true in the days of high-priced nitrogen, but with the improvements in the production of nitrate of soda and the advent of synthetic nitrogen, at less than ten cents the pound, and going lower, the chief purpose in growing a cover-crop becomes the production of organic matter. The most desirable cover-crop of course is the one that will produce the greatest combined value of organic matter and nitrogen. It seems that we have found this combination in crotalaria striata. It is producing two to five tons per acre of hay-dry material in groves on Norfolk sandy soils, and up to ten tons per acre in groves on hammock soils. Crotalaria produces twice as much organic matter, and fixes by nodule bacterial much more nitrogen, than any other cover-crop generally grown in Florida citrus groves.

In addition to supplying as much organic matter as can be produced in the cover crop the practice of hauling into the grove any kind of manure crop available is recommended where practicable and economical. Crotalaria is an excellent crop to grow on vacant lands, or on vegetable farms during the summer, to be mowed and hauled into the grove to supplement the cover-crop. In fact any crop of vegetation that yields sufficient tonnage to make it economical, and is practical to handle, may be grown and hauled into the grove. They all have a plant food value in addition to the needed organic matter. A ton of ordinary grass for example contains as much nitrogen, phosphoric acid and potash as 176 boxes of citrus fruits. A ton of crotalaria contains more than twice as much.

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# Citrus Grove Sanitation

By R. P. Barton, Leesburg, at Meeting of Florida Horticultural Society

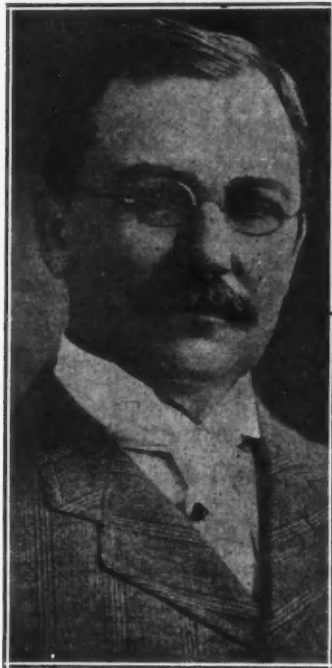
This is a paper upon citrus grove sanitation, whatever that may mean, to be read at the Horticultural Society meeting at Sebring. As I cannot read a paper nor prepare a speech and deliver it, I am setting down here what may be printed and will probably say something that is not herein written. This will be my apology for so doing.

Looking back 45 years to the beginning of my observations and experience, it is recalled that at that time grove sanitation was not a question of interest to the growers as a whole. Oranges (there were no grapefruit marketed) would drop then and they were picked up, packed and shipped to some market. Not because it was unsanitary to leave these on the ground to decay, but because they could be packed and shipped and return some money to the grove owner.

There was no white fly, no melonose, no cottony cushion scale, nor Medfly. The only insect that gave us thought was rust mite. There are those today who think it a great mistake that Florida does not permit rust mite free range, producing rusty oranges and advertising these as the best. They do not look upon the rust mite as a pest that should be considered as contributing to unsanitary conditions in the grove. Let's not argue that point. The consumer, the court of last resort, passes upon that.

In those days we needed no hundred thousand dollar packing plants, with washers, polisher and chemical treatment in preparing the fruit for market. It was clean and largely bright, of finest quality, with no ugly markings from fungus diseases. Those were the days when Florida, in the main, packed her oranges in the groves, under the open sky, with not thought of the pests that were to come in after years.

The purple scale was with us, but of no great detriment. From time to time there has been brought to us unwelcome guests, bringing with them the necessity for adopting methods and machinery for overcoming the marking that renders our fruits unsalable and remedies for the pests themselves. With what dread we looked forward to the white fly and what a sinking of the heart when they did come. It is a far cry from the time when growers were seen pouring oranges into washtubs and stirring them with a stick to re-



R. P. Barton

move the fly smut. The fly is and will be with us, always. We lose no sleep about it. We grow more fruit and get more money for it than in those days that we look back to with regret.

We had cold feet and weak pulse when citrus canker came to us. A year ago we were thrown into spasms when the Mediterranean Fruit Fly was found in our midst and with it came the necessity for an absolute clean-up of citrus groves—sanitation, if you please. Not only must the drops, or windfalls, be kept cleaned up, but the scattering fruit left on the trees after the commercial crops are moved must be found, pulled off and buried. The groves must be put in a perfectly sanitary condition and kept so.

It is difficult to find the last fruit. If it is there and if the fly comes to that grove, it will be found and after the fly has laid its eggs therein the fruit will surely fall. This matter of sanitation, which means thoroughly clean, is not a thing to be left to the careless man, nor to the man who does not believe in it. The most careful man will go over and over and think there cannot be another fruit in the grove, but to be confounded

by the wind, or by the fly if it should get into that grove, to see more on the ground.

We have recovered from the hysteria and now confront the Medfly situation with confidence that it will be eradicated. We know that it has got to be eradicated by the federal government. We know that Florida can not and should not eradicate it. We also know that there is overhanging now a shadow that can and will destroy us if it is not dissipated. The shadow of the quarantine. The federal quarantine has restricted us to a small area into which we can ship unsterilized fruits from Florida. We know that with a crop nearly or quite twice the size promised for next season as was shipped the past season, with only that same territory open to us into which we were permitted to ship unsterilized fruits the past season, we can look forward to meager returns from next year's crop. That quarantine must be lifted. We must have all markets that have been available heretofore and others must be developed.

The quarantine will be lifted when and only when the United States authorities are convinced that there are no more Medflies in Florida. It is therefore imperative that the growers of Florida observe the strictest and most thorough citrus grove sanitation in their own property and see that it is observed in all other properties.

Mexico is a living object lesson to Florida. When Florida froze in 1895, an effort was made, by fruit merchants, to substitute Mexican oranges. It was short-lived. There was no embargo against Mexican fruit nor any tariff sufficient, if any at all, to keep them out, but the most perfect and effective embargo in the power of man operated to prevent the shipment of worm-infested oranges into this country. The consumer refused to buy.

Let the Federal quarantine and all state restrictions be removed, leaving Florida to ship when and where she may please to ship, and let the eradication work cease, and let the clean-up work by the growers cease and the time will soon come when Florida would be shut out from every market on the American Continent because her fruit would become wormy and no dealer would put a dollar in them, because the consum-

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# Federal Farm Board

An Analysis of Its Activities and of Other Efforts at Price Fixing Elsewhere, by Daniel A. Millett

Following is the address of Daniel A. Millett, investment banker and stockman of Denver, Colo., before the Chamber of Commerce of the United States recently, in which he discussed at length "Business and the Federal Farm Board."

"First let me express my appreciation to the officers of the National Chamber for the courtesy of their invitation to me. Please remember I am here not in any sense as an authority, but only as an individual who has had rather intimate connection with agriculture over most of his business life, and as an American citizen of the tenth generation of his family in America, concerned for the welfare of our common country.

"Next, let me pay honor to the men who have offered their services in the administration of this recent Agricultural Act, with a sincere expression of appreciation of the enormous task they have undertaken for the benefit of agriculture, and to say unreservedly at the start that as far as I have been able to investigate the Act and the operations under it, they have only honestly and with ability attempted to put into effect that which they were expected to do. I am well aware that there has been a considerable amount of what might almost be characterized as loose talk and editorial opinion, criticising the members of the Farm Board for some of their activities, but even a hasty perusal of the Act will I think, lead any fair-minded man to the conclusion that they have in no way gone beyond its provisions, and that they are doing no more than was expected of them under it.

"The other night when Amos and Andy were talking about the speech Amos had to make before the Mystic Knights of the Sea, Andy said to Amos—'Tell them something they don't know,' and Amos replied—'Well, they don't know Ruby Taylor's papa is sick in Chicago.' I don't expect to tell you anything you don't know, but I feel sure that before long all of us will know that Ruby Taylor's papa is sick in Chicago.

"In this subject of Business and the Farm Board we should recognize we are dealing with a question of large social import and we should therefore approach it in a spirit of fairness, with an earnest desire to arrive at the truth. To do that we

should remember that in this country both the individual and the social or co-operative points of view are valuable and have their place.

"President Hoover, on April 16th, is reported to have made this fine statement regarding the individual:

"'Leadership is a quality of the individual alone who can function in the world of intellect and in the world of leadership \* \* \*

"'Human leadership cannot be replenished by selection, like queen bees, by divine right or bureaucracies but by the free rise of ability, character and intelligence.'

"As to the social or co-operative point of view, we all know there are many things, if we are to lead civilized lives, which we must do collectively. To fit the things we propose to do into the balance with these two great forces is the problem of civilization, and what we are trying to do in this discussion is to find out how the policy set up by the Agricultural Marketing Act of June 15, 1929, fits in, and whether it is a sound, workable addition to the whole mosaic of our national life.

"What, very briefly, are the outstanding features of the Agricultural Marketing Act?

"In its preamble, the Marketing Act declares its policy to be:

"'To promote the effective merchandising of agricultural commodities in interstate and foreign commerce, so that the industry of agriculture will be placed on an economic equality with other industries, and to that end to protect, control and stabilize the currents of interstate and foreign commerce in the marketing of agricultural commodities and other food products, by (1) minimizing speculation, (2) preventing waste in distribution, (3) encouraging organization of producers, and (4) preventing and controlling surpluses in any agricultural commodity.

"In a broad way, the Act proposes to carry out this program through its Farm Board organized under the Act, first by the dissemination of educational and statistical facts among agricultural producers, so as to aid them in their decision as to crops and products to be produced; second, by promoting co-operative associations of producers through organization assistance, and through loans to such co-operatives; and, third, by the establishment of stabilization corpora-

tions, the function of which is to handle surpluses through market operations; and to carry out the purposes of the Act a revolving fund of one-half billion dollars is created, to be made available from the Treasury of the United States.

"It is entirely within the provisions of this Act, for the Farm Board, through the co-operative associations and stabilization corporations, to go into warehouses, the leasing or building of elevators, the loaning of money and the purchase and sale of agricultural commodities on the market, in which latter function I am unable to find any restriction to operation upon the markets of the United States, it apparently being within the power of the Board to operate upon markets of the world in buying and selling agricultural commodities.

"The Chairman of the Farm Board states the purposes of the Act, in Forbes Magazine April 15, 1930, thus:

"'Our fundamental purpose is to organize agriculture as other great industries are organized—to educate the farmer to the wisdom and profit of joining in a great well-managed marketing agency which can largely control production as well as most profitably distribute the products.'

"It is evident from what has just been said, that the functions of the Board as applied to agriculture are practically limitless. It becomes the advisor, the banker, the builder, buyer and the marketer for agriculture; and it may well finally become the dictator.

"That this can be nationally developed, and is even now present in the minds of the friends of the farmer, in Congress, is shown by H. R. 5720, introduced December 2, 1929, by Congressman Tom McKeown of Oklahoma, to amend Sec. 5 of the Agricultural Marketing Act, which bill provides that the Farm Board may (after publishing notice in county newspapers and posting it in post-offices) allocate the acres in each state and county that each individual farmer shall plant in each crop.

"In times past dictatorship in the saddle has not hesitated to control economic activities, as witness the ancient English statute in 1533, under which the sowing of hemp and flax was made compulsory. (It seems to me just the other day that the Farm Board was advocating the sub-



stitution of flax for wheat).

#### Causes

"The principal causes which brought about the passage of this Act are: First, response to the emotional urge of sympathy.

"We have all heard a tremendous amount about the distress in agriculture. That there was real tragedy in agriculture following the post-war deflation, no one can deny, and I know of it first-hand, but it is well for us to remember that tragedy in this deflation was not limited to agriculture; but because agriculture is no longer truly represented by the Silent Man with the Hoe, but has become most vocal, the emotion of sympathy for agriculture has been allowed free play. It was inevitable that the industry representing some 30 per cent of the population of this country, under our form of government, an attempt should be made to remedy the situation through legislation, and you may recall that the original attempt known as the McNary-Haugen Bill was twice vetoed by President Coolidge; that a second attempt, known as the Debenture Plan, failed of enactment, but last June the Agricultural Marketing Act was finally passed.

"The point I am making under this first heading is merely to emphasize that whenever any great public policy grows out of an emotional urge, it is very necessary that calm, cool-headed citizens should appraise the situation with the reasoning rather than the emotional faculty. As Mr. Owen D. Young, a highly honored member of this Chamber, said in his great speech delivered in San Francisco on March 24th of this year, 'It is easy for politics with her appeal to the emotions, and her ingratiating manner, to start things in the field of economics which she cannot stop.'

Second, the Agricultural Marketing Act was secondarily passed because of resentment at Economic Inequality.

"While it is true that there has been a considerable recovery in agriculture since the post-war deflation, it is still not on a par with other industries, since the Agricultural Situation, (published by the Bureau of Agricultural Economics, U. S. Department of Agriculture), on March 1, 1930, says that the ratio of prices received by farmers, to prices paid by them for other commodities, February, 1930, stood at 85 as against par of 100.

"The tariff situation enters largely into this.

"It is well known that the four great staple crops of the United States—wheat, cotton, tobacco and

pork products (which latter naturally includes the corn crop because that is largely consumed in the making of pork products)—are surplus crops, which surplus is exported into the markets of the world where the price on the whole product, that consumed at home as well as that exported, is fixed in open world competition. The importance of these American crops in the economy of the United States, and also of the world, can be realized when it is found that their combined value in 1928 amounted to five-twelfths of the total value of our agricultural production for that year, and that our export of pork products amounted to one-fiftieth our export of wheat to one-twenty-fifth, our export of tobacco one-seventh, and our export of cotton one-third of the entire world production of these commodities.

"Now, it is an axiom in economics that an import duty on an export crop is ineffective, a joke in fact, and farmers consider such import duties in the tariff bill as jokes. Out of this situation grew the farmers' resentment at having to sell his important products in a world free-trade market, while his purchases were made largely in a protected market for the manufacturing industries. Some of this resentment may have been conscious, and some of it unconscious. And some of it was unexpressed, because the farmer, in common with most American citizens, has had the protective tariff theory drilled into him for so many years that it has come to be almost a religion for farmers, workers and industrialists alike. It was this thought of the inequality of the tariff which led the farmer and his friends in the McNary-Haugen Bill, and later in the Debenture Plan—which is still being urged in the present tariff bill—to attempt to put into effect an export bounty, and failing in this, to turn in the present Marketing Act to the Stabilization Corporation, as a possible means whereby the farmers' surplus export products could in some measure be disposed of in a protected selling market.

"If we are to have a high protective tariff policy 'or another equivalent' must be made applicable and effective for the farmer.

"Third, the Act was brought into existence in response to what is apparently a world-wide movement in practically every direction, toward consolidation and stabilization, and the question was asked, why should the farmer be left out.

"For examples of this combination movement I need only refer to the

Farmers' Wheat Pool in Canada and Australia; the government organization in Soviet Russia; the two gigantic wheat firms, one Belgian and the other French, in Argentina; the Stephenson control act for rubber in England; the government control of coffee in Brazil; the sugar control in Cuba.

"In international industry we have the Cartels, of which a recent economic writer says:

"There are 18 principal cartels now in effect, of which the most important are: Steel, rails, tubes, bottles, plate glass, aluminum, potash, chemicals, rayon, linoleum, copper, wire. Of these, the United States is a member of four, including the highly successful copper cartel, and agreements with regard to aluminum, electric bulbs, and borax.'

"Now, the answer is that of course the farmer should not be left out, provided he combines in response to economic law.

"But the assumption that even combinations arising out of the working of economic law are therefore entirely justified, has its limits in the English speaking antipathy to monopolies, the tendency to which is beginning to be of concern to this country.

"It seems to me we have been led by our study of the ups and downs of the business cycle, and our desire to get rid of them, into turning to combinations and 'fixing things' as a panacea, until we are engulfed in a veritable 'stability stampede.'

"What I want to urge on you today is that we need, not more combination, including farms, but less interference with the economic law of supply and demand, functioning through price, because that is the only sure, inevitable, sound, scientific method of eliminating the marginal producer.

"What do we mean by 'supply and demand functioning through price?'

"Why, we mean the total amount of goods and services in the world, meeting the effective wants of the world, as measured by money, with the resulting placing of exchange values on these goods and services. This exchange value or price fixes, for example, the number of bushels of wheat which shall be exchanged for an automobile. No account is here taken of changes in the purchasing power of money in any particular country, or as between countries, but is a concept of goods and services meeting each other, to be exchanged for others in the world as a whole. When a price is profitable for any product, its production increases; when unprofitable its production de-

creases.

"As a young Cambridge economist pointed out, some two billion human beings in the world have their economic activities controlled by this mechanism (not, mark you, by a great central economic board of the world issuing orders to all producers and consumers). This is the world market. It is of evolutionary growth and hence adopted to fit needs. It has no central location, but is carried on mainly in exchanges located at strategic points in different countries in which demand and supply make themselves felt with the resultant price, which controls.

"In this world market, of course, speculation plays an important part, because man looks to the future. The speculator serves a real economic purpose in buying when products for future delivery appear too low, and selling when they appear too high. Out in Colorado many wise wheat farmers use the future markets in an intelligent manner as an adjunct to their business of growing wheat, for they market the actual grain, thereby eliminating loss, waste and fire hazard, and if the price appears to them too low, buy the same amount which they have sold, of some future delivery.

"Only just recently there has been started in this country a futures market for live hogs, which if it fills a real need will be successful and will help stabilize hog prices.

"This world market with its present goods and speculative futures is most delicately adjusted, changing from minute to minute. It does not await the convening of a world board, but permits individual initiative to make effective its judgment by buying or selling.

"What do we mean by the marginal producer? Why, nothing more or less than that, because of his inferior location or inferior efficiency for the production of a particular product, he is the high cost producer of that product.

"What do we mean by interference with the action of the law of supply and demand in the free world markets?

"Interference (1st) by private combinations, controlling or attempting to control production and marketing, and through them price.

"Take the case of copper, subject to an international cartel, into which American producers entered with government sanction through the Webb Act. It rose in the early months of 1929 from 16½¢ to 24¢ per pound, which followed an advance in price of 18 per cent in 1928. During the first five months of 1929

this advance was accompanied by an estimated increase of 20 per cent in world production. Today copper is 14¢. So the efforts to maintain price failed.

"(2nd.) By direct governmental action, either by law or administrative bodies.

"Take the case of rubber: In 1922 the Control Act dealing with rubber was passed in England, and a committee appointed by the Colonial Secretary and headed by Sir James Stephenson, took charge of the situation. This committee recommended that a sliding scale of export restrictions on rubber should be imposed in the various British possessions, based upon a sliding scale of prices. The operation of the plan did not become effective until the accumulated stocks of the world markets became exhausted in 1925, whereupon the price was advanced in a few months from around 30¢ to 35¢ per pound, to as high as \$1.21 per pound, which price was reached in 1925. Today smoked rubber sheets are worth about 15¢ per pound. A year ago they were worth about 22¢. The plan failed.

"Take the case of coffee:

"The first effort of any consequence for control of coffee in Brazil was in 1902, when the government passed legislation penalizing the planting of new acreage.

"Later the government of Brazil, by issues of paper currency and also by loans, raised the funds necessary to permit it to go in to the markets and purchase coffee so as to store it and hold it for a higher price. The operations of the government, in order to carry out its plan, included the warehousing and storage of coffee, as well as loans to purchasers and limitations upon shipments to central markets.

"As a result of this policy the production in Brazil finally jumped in the crop year of 1927-1928 to 28,000,000 bags, which exceeded the former world consumption. In addition, the artificially high price for coffee stimulated production in other countries, with the result that Santos No. 4, the best Brazilian coffee, dropped in price to about 15¢ in January of this year, which is probably below the cost of production.

"It is to be remarked that coffee in Brazil apparently lent itself to the government control, since about 70 per cent of the world supply is produced in that country, as would cotton in the United States, since we produce 60 per cent of the world's supply. But the plan failed.

"Take the case of sugar: Cuba furnishes something more than 60

per cent of the world's exports. Since the deflation in the price of sugar following the war, Cuba has tried many experiments in her effort to maintain sugar for her planters on a profitable basis. She has limited production. She has organized a Unified Selling Committee, but the more her efforts have succeeded in keeping sugar from seeking its natural level in the world markets, the more other countries— notably Java and the Philippines — have increased their production, with the result that sugar today is selling for very little more than its 1922 deflation price. The plan failed, and the Selling Committee has within a few days been dissolved.

"Concerning these attempts at governmental control our Department of Commerce, in 1926 in Trade Information Bulletin No. 385, entitled 'Foreign Combinations to Control Prices on Raw Materials,' says:

"The world has often enough seen attempts to set up private monopolies, but it is not until recent years that we have seen governments revive a long-forgotten relic of medievalism and of war-time expediency by deliberately erecting official controls of trade in raw materials, of which their nationals produce a major portion of the world's supply, and through these controls arbitrarily fixing prices to all of the hundreds of millions of other people in the world. It is this intrusion of governments into trade operations, on a vast scale, that raises a host of new dangers — the inevitable aftermath of any such efforts by political agencies to interfere with the normal processes of supply and demand."

"On page 6 this same pamphlet under the heading 'Outstanding Features of Rubber Situation,' it is further stated:

"It is desirable to go into each of these questions for the purpose of obtaining a general picture of the whole of these controls, the economic soundness of the whole idea, the possibility of the constantly recurring, unreasonable attitudes of such organizations, the question of involving governments in business, and the jeopardy to amicable, international relations."

"And in its bulletin on 'British Colonial Office Reports on the Rubber Situation,' the Department of Commerce comments on the remarks of the Colonial Secretary in the House of Commons on April 26, 1928, in reply to criticisms of the opposition resulting from a decline in the price of rubber which occurred during February-April, 1928, as fol-

lows:

"The remarks of the Colonial Secretary throw much light on the operation of restriction and emphasize not only the difficulties encountered by a government in attempting to stabilize the price of a world commodity, but also the undesirable effects of such regulation by reducing the competitive efficiency of producers subject to such regulations.' But this is just exactly what the Agricultural Act proposes to do.

"(3) By indirect government action through tariffs which tend to impede the exchange of commodities, because they artificially raise prices. That is hardly a salutary procedure in the face of a surplus of commodities in the world, accompanied by world-wide unemployment, as evidenced by the world-wide fall in commodity prices. It would seem more sensible for each country to produce those products which it can produce at the greatest comparative advantage, to be freely exchanged for the comparatively advantageous products of other countries. The sum total of the economic goods of the world would thereby be increased, and therefore the per capita division increased, and the standard of living raised. High standard of living comes from ample natural resources and efficiency in production, not from tariffs.

"But some concession may be made by sound economics in favor of industries essential to national defense, and, temporarily, for infant industries; provided, the burden of proof of necessity for a tariff is firmly planted in all cases on its advocates. The principle of this concession is widely different from the general policy of protection for protection's sake.

"And please don't overlook the fact that the tariff system leads to retaliation. The French and Australian retaliatory measures just reported and Germany's government action largely excluding wheat imports from America are warnings.

"Tariff interference shows distinct signs of failure.

"That you may not think this brief tariff reference is ancient doctrine stuff, let me quote two able, modern business men. On March 6, 1930, Dr. Benjamin M. Anderson, Jr., Economist of the Chase National Bank of New York City, closed his address before the first annual International Foreign Trade Convention at Buffalo, N. Y., with the following words:

"I believe that we are rapidly approaching, if we have not definitely reached, the point in our history

when we must give heed to the doctrine presented here in Buffalo 29 years ago by President McKinley, that if we do not buy we cannot sell.'

"On March 24, 1930, Mr. Owen D. Young, in his address at San Francisco had this to say:

"Let no man think that the living standards of America can be permanently maintained at a measurably higher level than those of the other civilized countries. Either we shall lift theirs to ours, or they will drag ours down to theirs. Tariffs and other political barriers, temporarily justifiable, will in the long run only accentuate the trouble.'

#### Control of Production

"The Doctrine of Scarcity. — In order to make combination effective, either through private combination, direct governmental administration or tariff, production must be controlled.

"The Farm Board recognizes this, for it recommends for this coming crop year a reduction of at least 10 per cent in wheat acreage, and says 20 per cent would be better. It also recommends a reduction in cotton acreage, and makes the following statement:

"The Federal Farm Board cannot protect farmers when they deliberately overplant. What the Board will do to help in marketing next year's crop will depend upon what farmers do at planting time, if southern farmers should raise their own food and feed and, in addition to that, should raise the food that southern city people eat, so far as the climate and soil will let them, there would be small danger of any cotton surplus at an unprofitable price."

"Mr. Legge in the issue of Forbes Magazine for April 15, 1930, is quoted as saying:

"Production should be limited, like livestock, to domestic needs."

"What is the difference between control of production by governmental advice as it is being attempted by the Farm Board or by governmental compulsory measures which are impracticable, and that exercised by the economic law?

"Just this: The Farm Board says to all producers of wheat or cotton or any other agricultural commodity.—You all reduce your acreage a certain percentage. The economic law says—Production must be decreased by the elimination of the marginal producer. The economic law does not over the radio advise a uniform reduction of acreage, but silently draws a line — the margin — and the high cost producer on the line or below it stops producing, leaving the low cost, efficient producer,

and he's the fellow we want to produce for us, continuing, or even increasing his production, to the welfare of society. And my guess is that the low cost efficient producer will not cut his production, nor should he, because he is soundly following the dictates of the economic law, and is thereby benefiting all of us.

"Further, success in agriculture is intensely individualistic, and properly so. The old English adage is still true, 'The eye of the master fattens the cattle.' Now and then some gifted individual may operate on a large scale. There will be branches of agriculture which can work out co-operation methods successfully. As long as these results flow from the operation of the economic law, brought about by the farmers themselves, we are for them. They must recognize, even in that event, the monopoly limit, and be ready if they reach it to come under regulation for the benefit of the whole of society. And let me say in an aside just here, that as between a disinterested regulating government, and an owning government, in the case of a monopoly let us choose the lesser evil of regulation. And, let me say further, that throughout this address, the inefficiency of government operation of business in this country, has been assumed, believing the average man had sufficient demonstration of that in connection with railroads and shipping following the war.

"The decreased production policy put into effect under this Act virtually nullifies the Agricultural Financing Acts, and the work of the Department of Agriculture, for the last half century.

"You will all recall the discussion of several years ago, having to do with the inability of the farmer to secure adequate and cheap financing. The conclusion was apparently reached that the farming industry was so unique that it was entitled to special consideration. Out of this conclusion grew the Federal Land Banks, the Federal Intermediate Banks, and the Joint Stock Land Banks.

"The report of the U. S. Treasury Department of December 31, 1929, on the condition of those various governmental or semi-governmental agricultural financing organizations, shows that at that time the Federal Farm Land Bank was loaning to farmers \$1,200,000,000, the Intermediate Credit Bank \$76,000,000, the Joint Stock Land Banks \$585,000,000, all of which loans are made (as incidentally are the loans made through the various subsidiaries of the Farm Board), at a more favorable rate of interest than obtainable



in the open local market. What would be the natural effect of such loans? Naturally, they would tend to increase agricultural production, which has undoubtedly been the case.

"Through governmental action in establishing these banks we have cheapened one of the items of the cost in production, namely interest, and have also increased the amount of credit available for agriculture. The only economic justification for this procedure would be to increase production and to decrease the cost of the products.

"The Department of Agriculture has with great ability and perseverance for 50 years instructed the farmers in methods of increasing production, to the end that the unit cost of production might be reduced. That's sound.

"What a glaring inconsistency, to set up at the cost of the taxpayers one set of government institutions to increase agricultural production, and lessen its cost, and then turn around and set up another galaxy of government institutions to price of the thereby created surplus and to limit its production.

"It makes us think of Lincoln's famous application of the house divided against itself.

"This inconsistency again shows the fallacy of interfering with the economic law, and costs the taxpayers money.

"Also, does not this attempt at artificial reduction of production strike at our agricultural export trade? We cannot export unless we produce a surplus which can be sold in the world markets in competition with like production of other countries. We are doing that with cotton, wheat, tobacco, and pork products, produced and sold in world markets on a free trade basis, and that in a creditor country operating as a general rule under the protection theory, which means it is hard for our foreign customers to send us goods in return. If the farmer of this country can do that under such a handicap, why destroy that trade by decreased production? Better far readjust our tariff downward. Or if we will not do that, in justice to the farmer take the lesser evil of an export bounty, but don't make our hands empty by decreased production.

#### Control of Marketing

"To make combination effective, marketing must be controlled.

"As I have pointed out, this Act does not yet give the Farm Board dictatorship over production, though that body is advising the unsound policy of reduction, but when it

comes to the second factor in control—marketing—the aspect is more serious, for it gives to the Board through its controlled subsidiaries what may become monopolistic control over American markets for agricultural products.

"1st. The control of market facilities. Obviously no individual or combination of them could, for example, run an elevator or loan money to farmers in competition with the government, when profit and loss mean little, and in fact philanthropic, not business methods are encouraged.

"Let me read you a few sections of the Act, bearing on this:

"Sec. 527 (5b.) No loan shall be made to any co-operative association unless in the judgment of the Board the loan is in furtherance of the policy declared in Section 521, and the co-operative association applying for the loan has an organization, management and business policies of such a character as to insure the reasonable safety of the loan and in furtherance of such policy."

"In Sec. 529 (d), under the heading 'Loans to Control Surplus,' which loans are to be made to the Stabilization Corporation, the following language is used:

"All losses of the corporation from such operations shall be paid from such reserves, or if such reserves are inadequate then such losses shall be paid as a loan from the revolving fund. . . . Any stabilization corporation receiving loans under this subdivision for surplus control operations, shall exert every reasonable effort to avoid losses and to secure profits, but shall not withhold

any commodity from the domestic market if the prices have become unduly enhanced, resulting in distress to domestic consumers. Stockholders or members of the corporation shall not be subject to assessment for any losses incurred in surplus control operations of the corporation."

"As to net price insurance: Sec. 531. The Board may make advances from the revolving fund to meet failures under any insurance agreement, but such advances with interest thereon shall, as soon as practicable, be repaid from the proceeds of insurance premiums."

"This language of reasonable and practicable, with the U. S. Treasury to make up its deficits, is the sort of thing that encourages losses. It cannot be otherwise. The Act in effect says to men entrusted with its administration: 'You go ahead and spend one-half billion dollars for the government, not as you would handle your own business, facing the penalty of loss, but on the general theory of probability in helping agriculture, and with the hope that the transaction will come out all right.'

"It is now a matter of history that the Farm Board put into effect the intent of this Act on wheat and cotton, in its loans and in its purchases of wheat.

"For example, loans on wheat: The first loans were supplementary to loans made by the Federal Intermediate Credit Banks and were made on a basis up to 90 per cent of the market price of the grain, provided it was hedged in the future markets. Later, however, the Board announced

Continued on page 28

## Davis Becomes Salesmanager Florida Citrus Exchange

At the final meeting of the old board of directors of the Florida Citrus Exchange held recently in Tampa, Fred W. Davis, division chief of the Exchange at Chicago, was elected salesmanager for the Exchange.

The box retain for the coming season was placed at seventeen cents, a reduction of three cents from the previous season. This retain includes the assessment for the Florida Citrus Growers Clearing House Association. The retain as now fixed provides nine cents a box for operating expenses of the Exchange, four cents a box for advertising, two cents a box for the Growers Loan and Guaranty Company and two cents a box for

the Florida Citrus Growers Clearing House Association.

Officers elected were:

E. L. Wirt, chairman of the board J. C. Chase, president, and C. C. Commander, general manager, were re-elected unanimously. John A. Snively of Winter Haven was elected first vice president; John S. Taylor of Largo, second vice president; Rupert Smith, Arcadia, a new director, third vice president, and Homer Needles of Fort Pierce, fourth vice president.

O. M. Felix was re-elected secretary; John Moscrip, advertising manager; E. D. Dow, traffic manager, and W. D. Covode, cashier. Fred W. Davis, division chief of the Exchange at Chicago, was elected sales manager.

# IMPRESSIONS

By The Impressionist

John P. Donnelly, founder of the town of Mount Dora in Lake County, and one of Florida's most successful citrus growers, died last month at his home in Mount Dora at the age of eighty. No near relatives survive him. Mr. Donnelly had been active in citrus production since 1877; and his citrus operations had amassed a fortune for him. One of his very profitable hobbies of years past had been the planting of small tangerine groves in specially selected locations which he deemed exceptionally favorable. These often were of from three to seven acres in size, and seldom larger than ten acres. He was one of the best known citrus figures in that section of the state; and was widely esteemed. His was a full life, and a most unusual one. After many years of great activity he completely lost his sight. For a period of years he then continued citrus and real estate operations as a blind man, unable to see what his hands and brain wrought. Then, almost miraculously, his sight was restored to him, and despite the handicap of his years he took a fresh start buoyed up by the return of his vision that enabled him to see the remarkable developments which had transpired during his period of blindness. In his passing Lake County has lost a most constructive citizen.

Mr. I. M. Nuttaye has just completed a most interesting study of the hotel situation in Florida. Beginning a year or more ago he found that the majority of first-class Florida hotels were under receiverships. His study reveals a tremendous waste in Florida hotel keeping, due largely to the fact, he says, that Florida has too many hotels. As a result many are closed down for long periods in the year, and others operate at much less than capacity. He proposes placing all Florida hotels under one ownership and management. Selected hotels will then be operated for twelve months in the year. He figures that if the sum total of the hotel patronage thus is handled in these hotels, operating economically by reason of being open all the year, the saving will be tremendous. The saving will, he says, permit an average reduction

in all hotel bills of 62.38 per cent, which would be of great advantage to the hotel patrons. He is now working upon a plan to utilize the hotels which he proposes to close while operating the others. Mr. Nuttaye's address is 62,811 Chattahoochee.

D. W. Hadsell, the well known fertilizer peddler, says THE CITRUS INDUSTRY ought to sponsor a concerted movement for the enactment of compulsory spraying, or pest control, in Florida. We began it back in 1921, D. W., witness the bill introduced in that legislature, which was based upon the California law of similar intent. The subject is still a live one and growing more alive. Meantime our travels about during this past couple of months convince us there is a wider, and more intelligent, use of pest control measures in Florida citrus groves than ever before to our knowledge. It may be that its constant call upon the growers for the production of Better Fruit entitles The Citrus Industry to some credit in connection therewith.

It doesn't cost a cent more to pick, haul, pack, ship and sell a box of fancy brights than to perform the same operations for a box of greatly inferior fruit. In fact the selling costs less. But there is one whale of a difference in the net returns to the grower.

W. W. Yothers back from Hawaii; but not wearing a lei about the streets. Wonder if Mrs. Yothers allows him to wear one around home?

Ralph Polk Sr. of Haines City, dean of the Florida grapefruit canners, is worried a bit because lack of possible standardization of quality of the coming season's pack may have the effect of reducing consumer demand. We can recall distinctly when a few years ago a certain amount of canned grapefruit which was lacking in the proper quality did do precisely that.

We rise to nominate Al Capone as the executive head of a growers' association whose function will be to protect fruit crops from theft. "This Please Say You Saw It In The Citrus Industry"

grove under personal protection of Al Capone," ought keep the fruit thieves out.

Folks who believe the English are lacking in a sense of humor ought to have had the privilege of meeting John White, the great British fruit merchant of London who was touring Florida during May. Dry stuff he pulled; but he pulled plenty of it; and some are chuckling yet over some of his perpetrations.

Coincidences sometimes are uncanny. For instance a merchant newly come to Winter Park whose speaking voice bears a most remarkable resemblance to that of the late Roy E. Lenfest, the well known horticulturist who for many years lived in Winter Park. More than a few have dropped into the gentleman's store just to hear him speak a few words; and found it easy to imagine they were listening to the former horticultural expert.

Who is most widely and best known to Florida citrus growers in all producing sections? That is a big question. At a guess, however, we would nominate Jack Kerns of the Armour Fertilizer Works, Jacksonville; A. R. (Pat) Bogue, for many years vice-president of Chase & Co., and now with the Growers Loan & Continued on page 19



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# The Citrus Industry

with which is merged The Citrus Leaf

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## GROVE CALENDAR FOR JUNE

### Timely Suggestions for Grove Work During the Present Month

Stop cultivating bearing groves when summer rains begin.

Keep up vigorous rust mite control as long as they are present in dangerous numbers.

Groves that were sprayed in the spring or early summer with Bordeaux should be sprayed with oil emulsion about the middle of the month.

Spread parasitic fungi as soon as rains begin.

## UNDULY ALARMED

*Many attacks*

We greatly fear that our good friends of Texas Citriculture are unduly alarmed over the possibility of importations of citrus nursery stock from Florida. We fear that their apprehensions of disaster to the Texas citrus industry are unduly magnified. Either that or else our good friends are prone to express their thoughts in language exaggerated and unconsidered.

Citing the instance of a Texas nursery inspector, who is reported to have been ordered off the premises of a Florida nurseryman, Texas Citriculture asks:

"Is this the attitude that should be taken against Texas which is producing a comparatively clean fruit, by the state of Florida which has the integrity which all states claim? Does the state of Florida desire to force upon Texas numerous pests and diseases that have proven so devastating to her own citrus industry?"

Nay, nay, our friends! Not so!

Florida has no desire to force anything upon Texas, much less any of those pests which have proven so annoying to us. The fact that a Texas citrus inspector was ordered from the premises

of a Florida nursery (if it be a fact) is no more an indication that Florida desires to force pest ridden nursery stock upon Texas, than is the fact that Texas growers insist upon buying Florida nursery stock to be taken as evidence that Texas desires to forcibly import such pests.

As a matter of fact, all nursery stock shipped from Florida goes forth under rigid inspection rules and regulations, and as we understand it, is again submitted to rigid inspection upon arrival at Texas points. The state of Florida, quite as much as the state of Texas, is throwing every possible safeguard around the shipment of nursery stock for either home or out of state delivery. If some Florida nursery attempts to evade these rules and regulations (a charge which has yet to be fully substantiated) that does not involve the state of Florida any more than the fact (quite thoroughly established) that some Texas growers are keenly trying to buy Florida nursery stock involves the state of Texas.

Let us be fair; brethern, let us be fair!

We commend to our rather excitable friends of Texas Citriculture a study of the attitude of California citrus growers, who are generous enough to attribute to the state of Florida and Florida citrus growers, both the desire and the purpose to not only clean up our own premises, but also to protect our fellow citrus growers in other states from the ills with which we have been afflicted.

As long as some Texas growers clamor for, and in some cases insist upon buying, Florida citrus nursery stock, it is not to be wondered at that Florida nurserymen should seek the means of meeting this demand—within the limits of the regulations laid down by the respective state authorities.

The welfare of the citrus industry is not confined to Florida, or Texas, or California or Arizona. The interests of all are common. We can achieve much by mutual respect and generous cooperation. We can achieve nothing by fighting each other over imaginary wrongs and hurling accusations which it is hard or impossible to substantiate.

## COMMENDS FLORIDA CLEAN-UP

The California Citrograph, which has consistently supported Florida throughout the trying times of Mediterranean fruit fly infestation and the clean-up work which has followed, and which has ever expressed its abiding faith in the good intentions of Florida as a state and of the growers as individuals, has the following commendatory words of the voluntary clean-up work undertaken by the growers following the temporary suspension of governmental activities, during the interval between the exhaustion of Federal funds and the recent renewal of government appropriations:

"Owners of large citrus groves in Florida have evidenced a sincere desire to have every orange cleaned out of their groves for the summer host-free period occasioned by the Medfly in that state. They have paid small boys a nickle an orange for every fruit found in their groves after the pickers



were through. And in one grove of 600 trees, a gang of several boys found 13 oranges—enough to breed a considerable number of flies did they contain larvae. This is comparatively a small item, but it does indicate a desire to take every human means to conform to the law. It is through just such spirit as this that the fly will eventually be stamped out."

Florida and Florida growers have had a staunch friend and supporter in the California Citrograph, which, we believe, voices the sentiment of the majority of California citrus growers.

## CALIFORNIA WOMAN

### WRITES OF FLORIDA

Mrs. Martha Congleton Wilkerson of 2531 Post street, sends the following clipping from the Reporter-Sentinel, of Los Angeles, Calif., the story having been contributed to a column called Readers' Letters by Sarah Robb Congleton of 5240 Dahlia drive, Los Angeles, a cousin of Mrs. Wilkerson, following a recent visit to Florida:

Editor Reporter-Sentinel:

I have lived in California for nine years, and am a loyal Californian and an enthusiastic California booster wherever I am, at home or abroad. But remembering that California is quite given to little jokes on Florida, and loses no opportunity to slam Florida for daring to claim equality with our beloved Golden West in climate—or anything else—I want to voice one little protest.

My husband and I have just returned from a two-months' motor trip through the South, much of that time in Florida. We were across the north end from Pensacola to Jacksonville down the East Coast to Miami; up the West Coast over the Tamiami Trail to Tampa, diagonally across from Tampa to Daytona; then across to Okeechobee lake and the swamps; and in many interior cities. And everywhere one can go with perfect comfort—north, south, east, west, in rain or shine.

For Florida has the most perfect road system to be found anywhere. It seems marvelous! The long fills across swamps, the wonderful bridges, and the miles and miles of beautiful concrete protection work, with posts and heavy wire, all painted white. Smooth, hardsurfaced roads everywhere one may want to go, to the Florida state line in any direction—often met by a common clay road across the line. And we from California forgot all our jibes and slurs and applauded Florida, and said: "How much our own beautiful state might learn from this land of flowers."

It might be to the great advantage of Southern California if our highway commissioners would take the same motor trip over Florida that we have taken. Then, maybe, we might have a hard-surfaced road to our state line at Needles, and one to Blythe, and one up the highway toward Salt Lake City—for we must all admit that our present washboard, graveled highways which greet tourists as they enter

our great state are not in keeping with our boasted good roads.

And as we make the comparison, let us not forget our population and wealth, as compared with that of our progressive sister, Florida.

Sarah Robb Congleton.—Florida Times-Union

## MULTIPLICITY OF BRANDS *Trade Names*

That the citrus growers of Florida are not the only ones who are suffering from a multiplicity of brands is shown by a recent article by H. Clark Powell, in Hadar, the citrus publication of Palestine.

Discussing this question, which has frequently been the subject of attention by Florida citrus growers, Mr. Powell says, among other things:

"One of the essential factors in the successful marketing of a perishable product that is meeting severe competition is that it must be placed on the market regularly and in large volume. It must be identifiable to the trade and to the consuming public.

"A brand representing 700 boxes of fruit cannot become known to the trade or to the consuming public. It cannot be maintained in the markets throughout the shipping season. Small brands cannot be advertised. When a well-known brand of fruit is offered for sale, with several small brands which may be unknown, the trade naturally prefers to take the brand with which it is familiar and the small brand is discounted accordingly. The small brand may represent fruit of equal quality to the large brand but buyers obviously prefer to take the article with which they are familiar rather than try something new to them and which may or may not be as good. Continuity of supply is a fundamental factor in modern merchandising.

"However, citrus growers are undoubtedly agreed that the existing multiplicity of brands and the small volume of fruit represented by all but a few is a serious handicap to the industry. The steps to be taken to remedy the situation are by no means agreed upon. The question is of importance to all, the large packing houses as well as the small grower who ships his fruit under his own brand. Low prices received for any portion of the crop tend to depress prices as a whole.

Large packing houses should adopt two brands for the two main types of fruit, similar to the practice followed by the Kat River growers. To pack low quality fruit under the same brand as high quality fruit tends to depress the price received for the better fruit."

Readers of The Citrus Industry will be glad to welcome the return of Charles D. Kime and his "Citrus Comments" as a regular feature of The Citrus Industry. Called to arms in the emergency fight to control the Mediterranean fruit fly a year ago, Mr. Kime has only recently found time to devote to his department in this publication.

George A. Scott, for many years salesmanager of the Florida Citrus Exchange, will be missed from the official roster of that organization. He is succeeded by Fred W. Davis, formerly western representative of the Exchange with headquarters at Chicago.

# CITRUS COMMENTS

—BY—

Charles D. Kime, Orlando, Florida

This department is devoted to furthering horticultural interests of Florida. Letters of inquiry, discussion or criticism will be welcomed.

## Trend of the Times In Fertilizing

"Radical changes in fertilizing citrus are being forced on the industry because of the addition of many new materials to our list of fertilizer materials."

The above statement opens up endless speculation as to what the future in fertilizing may line up for us in citrus work. It is speculation of more than passing interest because it means new developments in fertilizer combinations; new methods of handling applications; new materials and new combinations of old materials. It means in addition important and far reaching alterations in grove practices.

Fertilizing in the minds of most of us refers to fertilizer applications of materials we have bought in the market, shipped to the grove, hauled out to the trees and laboriously scattered more or less accurately and then harrowed into the soil. When we analyze it a bit this proves to be a very misleading state of affairs. Such an idea of fertilizing fails to take into account anything else but the actual application of the material. While it is always true we have some idea we are feeding the tree because it should be fed when we apply the material, we find little actual analysis of the need of the grove with reference to the particular kind of feed we are applying. Usually we find we paid no attention to any other requirement of the tree, its crop or its fruit quality than the one of approximating a general balance of supposed food needs.

In so much of our work we seem to proceed about as follows: we select some percentage of nitrogen, phosphorus and potash that we think will suit for the time of year it is to be applied, we estimate a certain number of pounds per tree. This we figure will give the tree sufficient material for its needs. We buy the fertilizer, apply it and when the application is finished and harrowed into the ground we are likely to think

we have done the job up in a good workman-like manner. The formula we bought may or may not be divided up between so-called chemical and organic sources. Sometimes we get the one and sometimes we pay for the other. In any case we are always confused as to the results we may expect from the application and we cannot definitely say what material in the application produced the result we did get. We quickly reach a state of acute mental daze out of which no one could struggle.

Are we not approaching the whole question of fertilizing from the wrong angle? If we think about fertilizing as FEEDING and all work looking toward the adding of material that may ultimately become of value in feeding the tree, as fertilizing we get a much better understanding of the value of the present trend in fertilizing and grove procedure.

A citrus tree is a plant from which we must have certain results. We

want fruit in quantity. We want fruit of high quality. We want fruit of wonderful appearance and what is really of more importance we want to get fruit every year, especially when the other fellow has a light crop. To accomplish these ends we have worked out system of fertilizing and endless formula combinations. We do anything in the way of pruning, harrowing, spraying and other stunts that seem to give results in fruit production and bring us more money. In doing these things we often overlook the fact that after all the tree is a growing vegetative plant and as a result in common with all plants it does best when its own peculiar conditions of tropical and sub-tropical growth type is satisfied. We cannot expect favorable response when we violate the needs of the tree too far and exceed its natural resistance to unfavorable conditions. Conversely and what is of great importance to us, we can by imitating

Continued on page 20

## Tilden Heads Florida Citrus Growers Clearing House Association

At the annual meeting of the new board of directors of the Florida Citrus Growers' Clearing House Association held in Winter Haven on June 4, A. M. Tilden, director from District No. 1, was elected president of the Association, succeeding J. A. Griffin, of Tampa, director at large, who has headed the Association for the past year.

W. H. Mouser of Orlando, was re-elected chairman of the operating committee of the Association.

Confirmation of the new operating committee, the members of which were recently recommended by clearing house shippers to serve on this body, was made without change from the shippers' own choice.

The members of the operating committee, in addition to Chairman

Mouser, are C. C. Commander, Tampa, vice chairman; R. B. Woolfolk, Orlando; E. E. Patterson, Tampa; L. Maxcy, Frostproof; R. D. Keene, Eustis; J. A. Watkins, Davenport; John S. Barnes, Plant City; L. P. Kirkland, Auburndale; Lawrence Gentile, Orlando, and D. H. Lamons, Ft. Myers.

### Fly Committee Named

Among several routine business matters handled was the appointment of a committee composed of Woolfolk, J. C. Chase and Mouser to confer with the federal fruit fly board on fly eradication work. An effort is to be made to obtain the fullest possible cooperation between the federal government and growers and shippers of the state in order that the fight against the pest may be terminated as quickly as possible.

# BLUE GOOSE NEWS

Monthly News of American Fruit Growers Inc.



Edited by The Growers Service Department

VOLUME 4.—NO. 7

ORLANDO, FLORIDA, JUNE, 1930

PAGE 1

## GREAT BRITAIN WANTS ONLY ADVERTISED FRUIT

Sales practices the Florida citrus industry must apply for fullest response from the vast market of the United Kingdom were outlined by John W. White, of White & Son, Ltd., of London, owner of a chain of fruit auction brokerage houses in every principal section of England and in Antwerp on the continent. The concern is the largest of its kind in Europe. Mr. White expressed his views upon the subject in an interview in the Tampa Tribune.

Mr. White, in Florida to study citrus growing and marketing conditions made a trip over the citrus areas accompanied by R. B. Woolfolk, of Orlando, vice president, and C. N. Williams, sales manager of the Florida division of the American Fruit Growers.

Florida citrus interests have only recently realized the advantageous marketing condition in England, Mr. White said. The set-up is nearly ideal for the industry that markets its products under a well-known brand, he said, for English housewives are brand-minded in everything they buy.

Transportation from Florida, permitting free movement of the citrus crop to Europe, however, is inadequate and needs improvement both from the standpoint of facilities and schedules before growers can realize the advantages of the foreign market, he explained.

"European consumers consider Florida grapefruit the finest in the world," said Mr. White. "The market over there affords a tremendous outlet for citrus, the full importance of which is not yet appreciated by the majority of producers here."

"In the 1928-29 season the average London auction price from November to April was at least 60 cents higher than the New York auction price, grade for grade and size for size."

Mr. White was a co-organizer of the "Eat-More-Fruit" campaign which did much to educate European nations in the health-giving qualities

## WIN EARLY VICTORY AGAINST FREIGHT RAISE

A series of transcontinental freight rate revisions applying to and from Florida territory south of Jacksonville on the one hand, and Pacific coast points on the other, which railroads proposed to make effective May 17, was suspended on May 15 by the interstate commerce commission until December 16.

An inquiry will be conducted during the suspension.

Practically all of the rate changes proposed would have resulted in increases.

Railroads participating in the trans-continental movement described, proposed by the new tariffs to abolish the commodity and combination through rates from the Pacific coast to Florida territory, leaving the sum of intermediate rates as the legal charge to apply on such shipments.

By the order of suspension the present tariffs will be kept in force until further notice.

The fight against the proposed freight increases was instigated by Northwestern fruit interests; but every possible aid was given by the citrus shippers of Florida through the Growers and Shippers League and the Clearing House. J. Curtis Robinson, manager of the League personally appeared at a recent hearing, and contributed Florida's part in opposing the proposals.

According to J. R. Crewshaw, Orlando, traffic manager of the American Fruit Growers Inc. it was felt in Florida perishable shipping circles that if the proposed increased rates southbound were granted it probably would be only a short time before the carriers could, if they wished to do so, reverse the process, and ask for higher rates upon Florida fruits and vegetables destined to the Northwest.

of fruit, and consequently increased the demand for citrus.

"The United Kingdom is extremely receptive to brand advertising," he

Continued on page 2

## WEATHER CONDITIONS REDUCE APPLE CROP

The following is quoted from a recent edition of the Wenatchee, Washington, Daily World under the heading of "Apple Crop Losses":

"The folly of making premature crop forecasts for this particular district has been aptly illustrated during the past few weeks. The setting of blossoms was unusually heavy and indications at blossom time were that one of the largest crops ever grown in the Wenatchee-Okanogan district would be harvested this fall. Recent developments however, have materially reduced the crop prospects so that present indications are for only an average yield."

"Myron S. Foster, who is in an unusually good position to know, believes that the crop will not be any larger than last year if as large. The early prophecies are thus proven to have been misleading and to have created a false impression in the minds of the outside public."

Again, a few days later the following appeared in the editorial columns of the same newspaper:

"The fallacy of making early season predictions as to apple and other fruit crops has already been demonstrated in this district. An unprecedented cold spell about the 10th of May damaged the fruit crop of this territory to a very considerable extent. There is still plenty of time for many other losses to happen to the state's apple crop."

"In many districts winter injury is now showing up and is causing an unusually heavy drop of fruit. High winds, hail, extreme hot weather and early frosts may cause further losses to the orchardists."

"All these prove the unwisdom of early predictions."

Continued on page 2



## BLUE GOOSE NEWS

OFFICIAL publication of the American Fruit Growers Inc., Growers Service Department, published the first of each month in the interest of the citrus growers of the state of Florida.

**EDITORIAL ROOMS**  
Sixth Floor, State Bank Bldg.  
ORLANDO, FLORIDA



### GREAT BRITAIN WANTS

#### ONLY ADVERTISED FRUIT

Continued from page 1

said, "and with the commodity advertising already provided by the 'Eat-More-Fruit' campaign which established a background for successful brand advertising, accredited brands maintaining a high standard probably can expect successful distribution and a consistent demand there.

"In no market in the world are branded fruits more often specified by the housewife when shopping, and when one considers the United Kingdom has a buying power of 601 persons to the square mile, it is easy to see that it is sensitive to the machinery of distribution.

"With unusually large crops which Florida sometimes experiences, an export market is very desirable. The European market should provide a steadily increasing outlet for this excess supply.

"The United Kingdom receives large supplies of oranges in winter from Spain and Jaffa and it is only when short crops are produced in those countries that the European continent offers an advantageous outlet for an appreciable quantity of Florida oranges."

### WEATHER CONDITIONS

#### REDUCE APPLE CROP

Continued from page 1

dom of such enthusiastic and glowing predictions as was recently broadcast by a federal official and sent out from

Seattle.

"Secretary Gill of the Growers' Association, calls attention to the harm that these premature prophesies may do in creating an extravagant idea in the minds of eastern buyers. When the crop has been finally set and accurate yield estimates can be arrived at along in August, it is time enough for the true condition to be made known."

This is of interest to Florida citrus growers in indicating that the Northwestern boxed apple production which will come to market while Florida citrus fruits are up for public attention will not be in excessive supply. It is of further interest in the parallel to be drawn between the hasty predictions of bumper crops which were made this season in producing sections so widely separated as Florida and the State of Washington.

It will be recalled that when the heavy bloom appeared upon the citrus trees of Florida predictionists were extremely busy, and forecasts of a bumper crop for the coming season were heard on every hand. Some even went so far as to hazard a guess of thirty millions of boxes of Florida citrus for next season, which guess carried with it the implication of low prices as an accompaniment.

It was Mr. R. B. Woolfolk who for a time stood out practically alone against this tide of pessimism. In an interview in the columns of the Blue Goose News, which appeared also in some Florida newspapers, he cautioned the growers against becoming stampeded by such reports, pointing out that any number of things could happen which easily enough would reduce materially the then apparent crop, as indicated by the heavy bloom. He had something to say about "counting chickens before they were hatched," and something more about "crossing bridges before they were reached" and generally urged growers not to be too greatly influenced by the careless talk then being circulated so freely.

Except for the change of a few words, what the Washington editor has written could have been written to apply directly to Florida, to citrus instead of apples. Crop estimates a long time in advance are apt to be fallacious, in any fruit producing territory.

### WINTER HAVEN GROWERS HOLD ANNUAL MEETING

Last season was a prosperous one for the growers served by Winter Haven Growers Inc., at Winter Haven in Polk County. This fact, and the excellent progress of the organization, which markets its Belle of Winter Haven brand through the American Fruit Growers Inc., was developed at the annual meeting held at Winter Haven in May.

Under the leadership of W. M. Hampton, president; J. E. Crump, vice-president, John F. May, secretary and treasurer, and O. E. Turner, manager, the organization packed and shipped a large tonnage, which was marketed to an excellent advantage.

The former board of directors was unanimously reelected. These consist of J. D. Cameron, J. E. Crump, W. M. Hampton, A. R. Klemm, B. B. Marshall, John F. May and A. J. Pruden. All are large and well known growers of the vicinity, the center of citrus production in Florida. Affiliation with the American Fruit Growers Inc. continues, the sale of this well known Polk county fruit under the Blue Goose trademark being an advantage highly esteemed by the progressive growers who utilize the packing facilities of Winter Haven Growers Inc.

### REMODELING OPERATIONS IN MANY PACKING HOUSES

Many AFG and affiliated packing houses at this time are repairing their machinery, as is usual for the time of year, and many are taking the opportunity to remodel portions of their equipment in order to increase efficiency and capacity.

Weirsdale in Marion County, is one which will better its operations and add to capacity through the installation of additional sizer equipment.

Coloring rooms are being remodeled in many houses, to make use of the method of automatically controlled temperature and air conditioning so successfully developed by the American Fruit Growers Inc. mechanical department.

### MACON OFFICE OPENS FOR GEORGIA PEACHES

W. M. Scott, vegetable manager of the Florida Division, is now in Macon where he will personally handle the large tonnage of Georgia peaches which will move to market under the Blue Goose trademark.

Following the movement of the Georgia peach crop, Mr. Scott will

After all, the true test of selling efficiency in the perishable field is the ability to consummate F.O.B. sales. That is why the American Fruit Growers Inc. maintains special F.O.B. sales offices in the cities possessing the largest auction markets. These F.O.B. offices have separate personnel, and are distinct from the offices which attend to the matter of auction sales, and are thus able to focus all their attention on F.O.B. sales in their respective territories.



transfer his headquarters to Candor, North Carolina, for the duration of the peach movement from that state, returning to his office at Orlando only when the Georgia-North Carolina peach crop is out of the way.

#### 20TH BIRTHDAY OF AFG

##### APPLE ORGANIZATION

"Today marks the twentieth anniversary of the organization of the Northwestern Fruit Exchange an institution that has had a prominent part in the development of the fruit business of the Wenatchee district since its inception in 1910," said the Daily World of Wenatchee, Washington on May 9; and then continued:

"As we look back across the years, declares Myron S. Foster, president of the Northwestern Fruit Exchange, 'we see how clear was the vision of J. S. Crutchfield, the man who founded this organization and who with his associates in the old firm of Crutchfield and Woolfolk, now the American Fruit Growers Inc., guided its early efforts.

"He could foresee, even in the infancy of the apple industry in this valley, the need of a worldwide sales organization that would function the

year around. He envisioned the vast river of apples that would some day flow from the Wenatchee valley to the four corners of the world and knew the need for providing clear channels of distribution."

In 1913 the Skookum Packers' association came into being and since that time these two organizations have gone hand in hand—the exchange functioning as the selling agent—the association serving growers in the problems of growing and harvesting.

Early in the history of these organizations the necessity of a strong, constructive advertising program was realized and since that time Skookum Apples have been advertised continuously. Today, Skookum is recognized as the world's best known apple brand and the smiling Indian head which has been its trademark, is a household figure in every land, and the Northwestern Fruit Exchange through the more than two hundred sales offices of the American Fruit Growers Inc. presents it literally to the whole wide world.

"During the past 20 years," explains Mr. Foster, "this exchange has rendered a complete sales service to

the growers of the various producing districts of North Central Washington. In this period the Northwestern Fruit Exchange has shipped 35,633,794 boxes of apples that have returned \$48,114,245 to growers without a single dollar of credit loss.

"It is with a great deal of satisfaction that we of the Exchange feel that we have been able to contribute our share to the prosperity of North Central Washington by developing world-wide markets as well as assisting deserving growers to a point of financial independence.

"Many of the practices which are now considered as standard for the entire fruit industry from Washington to Florida were first conceived by Mr. Crutchfield and were inaugurated by him. The successful record of the Northwestern Fruit Exchange during the past 20 years indicates how clear was the vision of Mr. Crutchfield and his associates.

"Our attitude toward the future," Mr. Foster states, "perhaps was best expressed by Mr. Crutchfield during his recent visit here when he said: 'Apples will be decidedly better for the next 10 years than they have been for the past 10.'"



### AFG PERSONALITIES

C. N. WILLIAMS, SALES MANAGER of the Florida Division, upon whom devolves responsibility for supervising the sale of Florida citrus fruits. Well and widely known in Florida he is equally well known to the fruit trade of the country. For twenty years he has been engaged in selling citrus fruits from Florida.



## Melvin Heads Independent Fertilizer Association

C. T. Melvin, vice-president and general manager of the Gulf Fertilizer Co., Tampa, Fla., was recently elected president of the Independent Fertilizer Association, an organization embracing leading fertilizer manufacturers of the United States. The selection of Mr. Melvin as head of the organization is not only a recognition of his personal worth and fitness, but also a deserved recognition of Florida's important position in the field of fertilizer manufacture.

### IMPRESSIONS

Continued from page 11

Guaranty Co. of Tampa; and L. B. Skinner, who picks oranges in Dunedin and tourists in Tampa.

Those suggestions are unfair to such other figures as the well known vice-president of Wilson & Toomer, Bayard F. Floyd of Jacksonville and Davenport; John E. Taylor of Largo; A. B. Michael of Wabasso, and W. L. Drew of Eagle Lake, not to mention the active officers of some of our shipping agencies. Yet on the stipulation of "most widely and best known," we will let the original nominations stand.

Friends of C. W. (Joe) Lyons, "you drive and I'll spread," of the Lyons Fertilizer Co., Tampa; M. H. (Mike) Dorsett, assistant general freight agent of the Atlantic Coast Line R. R.; Roy J. Trimble of Lake Jem; Jess J. Parrish of Titusville, and others, may wonder at their not being included in such a roster. That is because, in our belief, they are short on close personal acquaintances in some sections, even though numbering a great number of friends and acquaintances in others.

Bear in mind we use the Billy Baxter definition of friendship. "A friend is one who knows all about you, but likes you just the same."

### RUST MITES HEAVY IN MARTIN

Rust mite infestation has been heavy in Martin county. Where no sulphur spray or dust was used for control about 50 per cent of the fruit seems to be rusty, C. P. Heuck, county agent, reports.

Clear cold water is first aid for egg stains.

# A \$60,000 Sale Of Fashionable Shoes

Frankly we bought too heavily at the beginning of this season and while business has been good we must clear up our summer stocks before the fall stocks begin to arrive. The only way to do it is to make prices so attractive that everyone within a hundred miles of Tampa will want to buy their shoe requirements from us. So we are offering the

## Greatest Values Of The Year

### OUR ENTIRE STOCK OF

**\$10 SHOES**

TO SELL AT

**\$7.85**

One of our finest lines of shoes in all sizes and widths.

### OUR ENTIRE STOCK OF

**\$12.50 SHOES**

TO SELL AT

**\$8.85**

Our very finest shoes—superb in material and workmanship. All sizes.

### OUR ENTIRE STOCK OF

**\$6.00 SHOES**

TO SELL AT

**\$4.85**

Newest colors and designs and a wide range of sizes and colors.

### ANOTHER LOT OF NATURAL BRIDGE ARCH SHOES SELLING REGULARLY AT

**\$6.00**

TO GO AT

**\$3.85**

These are truly known as Comfort Shoes—they are stylish too.

## Regular \$1.50 Hose Only 79c

Every single pair of shoes in this sale is a part of our regular stock—everything in the store is included. The stocks represent the very latest styles and the finest of workmanship. It will pay you to outfit the whole family during this event.

*Princess Boot Shop*  
EXCLUSIVE FOOTWEAR FOR WOMEN

812 FRANKLIN ST.

—BETWEEN POLK & CASS—

TAMPA

FLORIDA

**CITRUS GROVE SANITATION**

Continued from page 5  
er would spurn them.

Last, let me say that Mexico did ship worm-infested fruit into the West and Middle West. As late as 1899 I saw it in Wichita, Kansas, and no fruit fly was ever found, so far as has been reported from the maggot carried into a large part of this nation in the Mexican orange.

The weather conditions which permit the free movement of Florida fruits into the eleven northeastern states are more severe in the western and northwestern states. The Mexican fruit fly did not find a home in this western territory any more than the Medfly has found a home in the eastern open territory. Therefore, there seems no logical reason for shutting Florida out of a vast territory which she needs for her citrus fruits.

Be that as it may, the question confronting the growers of Florida today is to maintain a perfect sanitary condition in their own groves, in order that no fly may find a place to lay an egg; with no oft or ripe fruit in which to lay they will not lay. Then feed them the poison bait. Is the United States going to finance and continue the eradication work?

If it does, who is going to clean up and maintain the necessary sanitary conditions? None other than the growers themselves. If it does not, then these same growers must. It is our burden, and if we do not carry on it is our destruction.

**CITRUS COMMENTS**

Continued from page 14  
favorable conditions for the particular variety and root-stock, reproduce in many unfavorable locations, a satisfactory tree result. Our problem is therefore one of individual tree treatment, variety and location considered. We endeavor at as low a cost as possible to fulfill every necessary need of the tree in the location where we find it or plant it, so as to reproduce as near an ideal fruiting condition as is possible to attain.

From the angle outlined above, fertilizing is not buying a formula—fertilizing is feeding. Conversely feeding is adding to the soil those things which help us successfully imitate ideal tree conditions. This idea makes a broad view of fertilizing imperative. It would and properly should include all materials added to the soil whether bought, grown on the grove or hauled in from adjacent areas, this would mean all cover-

crops and mulches and all fertilizer material bought and applied during the year.

If we can accept the idea that fertilizing is feeding the tree either as an individual or in grove blocks by varieties; and that we have certain definite ends in view at all times we are ready to go much further and consider why the present situation is so important to us and so interesting. For the first time in the history of the industry high percentage fertilizer combinations are available in quantity and at an attractive price. Because of their own intrinsic worth and because of their effect on the whole list of fertilizer prices these newer materials offer great hopes of our "getting by" successfully at a much less cost than formerly. At the same time we may reasonably expect even better results than in the past.

The first step of importance is that we are now able to apply materials for their quality effect alone without reference directly to their food value. In this way soil conditions can be remedied, tree growth influenced and fruit quality affected.

In the past it cost too much to buy materials on any other basis than the plant food value it might possess.

## Copper Sulphate

Guaranteed  
99%

Packed in new barrels our product always arrives in perfect condition.

Further facilitating the use of this highly important product we can supply orders on the shortest notice in large, medium or granular crystals.

Write us for details.

**Southern Agricultural Chemical Corporation**

621-25 Grant Building  
Atlanta, Ga.

# Chaco

## FERTILIZER



Our experience is that Florida soils need organic fertilizers. Chaco Fertilizer is mostly organic. You can see the difference.

## CHASE & COMPANY

*Sanford, Florida*

Experimentally we knew that better results could be secured than we were getting but practically it ran up a prohibitive cost. Up until the last three years cheaper fertilizing materials were not available even in experimental quantities. Since there was no assurance that such materials ever would be available in quantity there was little incentive to carry on any extensive test work. Now however with the assurance of the continued production of a long list of nitrogen bearing derivatives at a reasonable cost, the whole field of fertilizing is opened up in a most amazing and fascinating manner. There is no end to the possible combinations that may be made or to the results that may be secured, both good and bad. We are no longer limited to the old lineup of mixtures of NITROGEN from a relatively few organic sources and still fewer chemical combinations; PHOSPHORUS from super-phosphate and one or two other organic and chemical sources; POTASH from our old standbys, sulphate and muriate. The present combinations of the three major plant foods largely eliminate the elements we do not need or desire at the time and give us as a make weight percentage elements that will have a needed corrective effect. There are combinations running as high as 60% available plant food and they also furnish the added value of the remaining percentage being from a desirable material.

While it is necessary that we take advantage of these lower prices to cut the cost per unit of material used, their real value seems to lie just as much in another relationship that immediately becomes possible as in their lower price. We can now buy any other material which we find to be of value in fruit production and use it as a direct soil application or otherwise as might be indicated to get the desired effect and still stay within economic limits.

**DR. RUEHLE APPOINTED  
CITRUS DISEASE WORK  
EXPERIMENT STATION**

Dr. George D. Ruehle has been appointed assistant plant pathologist at the Florida Experiment Station, and will begin work at the Citrus Sub-Station, Lake Alfred, July 1.

Dr. Ruehle received his Ph.D. degree from Washington State College early this month. For three years previous to his graduate work he was state horticultural inspector in Washington. His thesis was written on storage rot of apples, and he has had considerable experience with other fruit diseases.

## Perhaps Your CITRUS Trees are on a HUNGER STRIKE

**N**INE TIMES in ten lazy-acting citrus trees aren't lazy at all. More likely they're hungry—don't get enough food—or else they don't like the food they do get and can't digest it.

Chilean Nitrate of Soda always agrees with citrus trees. It isn't too late even now. Give them a good meal of Chilean Nitrate. It is rich in quick-acting nitrogen. Goes right to work. Gives trees fresh vigor and keeps them healthy all summer. That means more fruit per tree. Better quality and earlier maturity. Best market prices are paid for fruit grown with Chilean Nitrate.

Remember, Chilean Nitrate is the only *natural* nitrate in the world. Always the same—always dependable.

The long-time nitrogen experiments at Lake Alfred Experiment Station are remarkable. Arrange to see them as soon as you possibly can.

### Free Fertilizer Book

A new book, "How to Fertilize Citrus in Florida," tells how you can make citrus trees pay greater profits. Ask for Book No. 7, or tear out this ad and mail with your name and address written on the margin.

1830-1930—This year marks the 100th anniversary of the first cargo of Chilean Nitrate brought to the United States.

## Chilean Nitrate of Soda EDUCATIONAL BUREAU



Orlando Bank & Trust Bldg., Orlando, Florida

In writing please refer to Ad No. 25-L



# Crotalaria

By J. Francis Cooper, Editor, Florida Agricultural Experiment Station. Reprinted by Permission From "Better Crops With Plant Food"

New life for old soils of the Southeast is being provided in abundance by a new and promising leguminous crop, *Crotalaria*. This crop, native to Africa, India, South America, Mexico, and the United States Department of Agriculture and the Florida Experiment Station. It has spread like wildfire in Florida, and now is

for trials in others States, notably South Carolina, Tennessee, Alabama, and Mississippi. The crop has shown up well in limited tests in all of these States and now is being tested in North Carolina, Texas, Louisiana, and some other Southern States. Investigators of the Department of Agriculture Forage Crops Office re-

Southern States will be rapidly increased as fast as seed can be obtained.

Until recently growers were handicapped in planting this new crop on account of lack of seed. However, a large fruit company has started growing *Crotalaria* in its pineapple fields and grapefruit groves of Porto Rico. With the cheap labor which prevails there, the company can harvest *Crotalaria* seed and sell it in the United State at prices which make the growing of this crop possible on a large scale. This company alone sold 105 tons of the seed in Florida this spring, and could have sold many more tons if it has had them.

The words "cover crops" don't mean a great deal to the Northern farmer, whose lands are frozen and snowed under for weeks during the winter. His land retains its fertility, and crop production year after year is not so difficult. However, in the South, which boasts of its balmy climate and its winter sunshine, maintaining soil fertility and crop production is something else again.

Twenty years ago practically every Southern farmer cleared for himself one or more "new ground" fields each winter. This virgin soil, which had been blanketed by forest trees, was fertile and would produce good crops for a few years. Ten years ago the practice was on the wane, and now it is almost extinct. Most of the tillable lands and many not so easily tilled have been cleared. Forest trees are not as plentiful as formerly, and the marginal as well as non-farming lands are being left

Continued on page 24



*Crotalaria* has proven an excellent crop to grow between rows of young trees in Florida citrus groves.

reaching out into other southeastern States. Apparently, it bids fair to be worth much as a rejuvenator of poor, worn-out soils.

It has taken *Crotalaria* 20 years to come into its own, but it is coming now with a bang—and yet it is a comparatively new crop.

Different species of *Crotalaria* have been under observation at the Florida Experiment Station ever since the late Dr. C. V. Piper, at that time head of the Forage Crops Office of the United States Department of Agriculture, sent some seed there for testing in 1919. Except for the fact that a few seed were planted each year and the plants kept growing, very little attention was paid to the crop until W. E. Stokes was appointed to investigate forage crops at the Florida Station, in the fall of 1921.

Seeing the plant and realizing its possibilities, this young agronomist set about testing it on a more elaborate scale. Having thoroughly tested it in practically every part of Florida, Mr. Stokes sent some seed

port that the plant has made good growth as far north as Ohio and Illinois, but has not produced seed.

## Large Spring Planting

Florida farmers and grove and orchard owners like it so well that they have planted every available seed this spring and have endeavored to obtain more. Something like 125 tons of seed have been sold in the State. Planted at the usual rate of 10 pounds to the acre, this would be sufficient for 25,000 acres of grove, orchard, and crop land. It is estimated that in 1931 the plantings will be increased by 50 per cent in Florida alone. If letters and inquiries about it are a fair indication, the acreage in *Crotalaria* in other

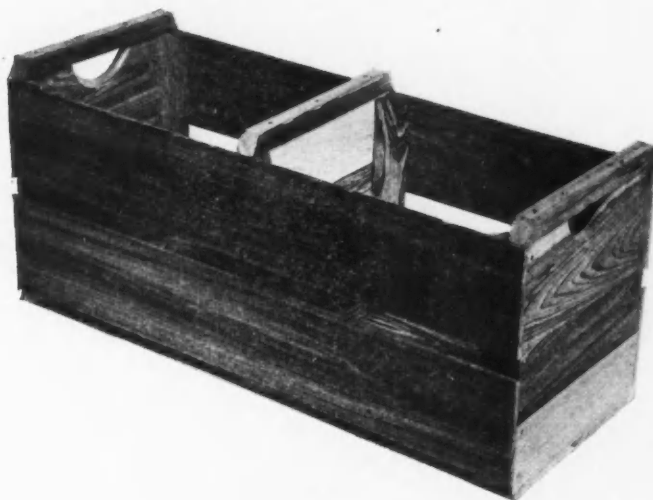


*Crotalaria* growing in a tung-oil grove.

**Standard  
Sizes**

---

Also sizes for  
Tomatoes  
and  
Cukes



Made from first  
class, genuine  
**GULF RED  
CYPRESS**  
well seasoned  
and dry.

# Cypress Field Boxes

## Play An Important Part In Increased Profits

BY REDUCING WASTE AND SPOILAGE  
AND ELIMINATING THE NECESSITY OF  
FREQUENT REPLACEMENTS.

When you buy our boxes you buy the best material on the market combined with the highest class workmanship obtainable. Our 14 years record of satisfying every customer gives assurance to our customers that our boxes will not wear out at the end of a season. Buy where you know you are getting honest, reliable goods.

A request for quotation or sample box will receive prompt response.

### WE ALSO SPECIALIZE IN

#### Cypress Car Strips

(Two Sizes)  
½ in. x 1 in. x 8 ft.  
Rough Cypress  
1 in. x 1 in. x 8 ft.  
Rough Cypress

#### Tomato Stakes

(Two Sizes)  
½ in. x 1 in. x 4 ft.  
Rough Cypress  
1 in. x 1 in. x 4 ft.

#### Box Strapping

We have on hand at all times and can ship promptly ⅝" x .023 Gauge Galvanized Iron Strapping. Also orange box strapping.

## Winter Haven Planing Mills

Winter Haven, Florida

"Please Say You Saw It In The Citrus Industry"

**CROTALARIA**

Continued from page 22  
in timber. Farmers realize that they must cultivate year after year their

gen in the air.

Both summer and winter legumes in wide variety have been tried as cover and soil building crops in the Southern States. Many of them have proven good. Among the array of summer legumes which have found a place in Southern agriculture are cowpeas, Velvet beans, soybeans, and beggarweed. One of these, velvet beans, was introduced into the Southeast by the Florida Experiment Station, in co-operation with the United States Department of Agriculture.

Desiring to obtain some accurate information about the place of leguminous and other cover crops in the soil building and crop production scheme, I sought out Dr. R. M. Barnette, brilliant young soils chemist on the staff of the Florida Experiment Station.

"The live or rotting portions in the soil are necessary for the successful production of any crop under field conditions" he told me. "They are needed not only to furnish nitrogen but also to maintain in the soil a balanced condition

of the nutrients necessary to plant growth. Among these nutrients are not only nitrogen, potassium, and phosphoric acid, which are needed in large amounts and commonly applied in fertilizer, but also the rarer elements, of which only traces are required by the plants.

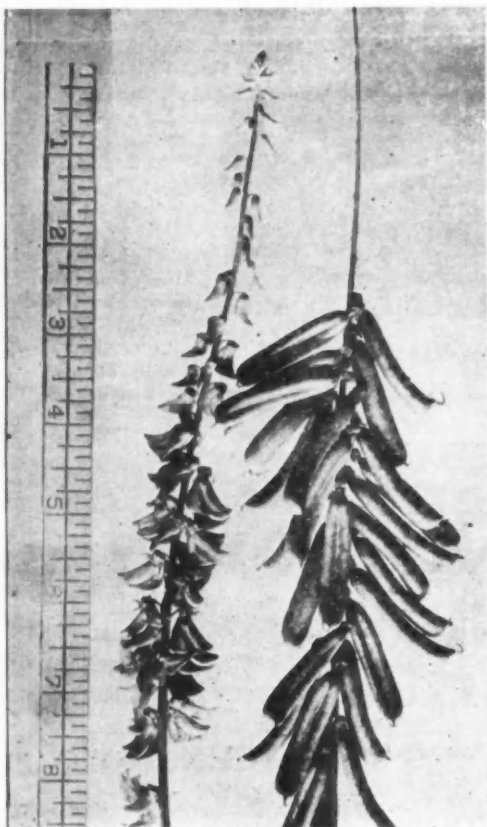
"This decaying organic material is the stomach of the soil. It digests the mineral as well as the organic portion of the soil, making available to the numerous plant rootlets in the soil the nutrients essential to plant production, and renewing these nutrients when they are removed by plant or other means. This matter of readjustment and renewing of nutrients is extremely important in sandy soils which are subject to leaching.

"Besides being the stomach of the soil, the decaying organic matter aids in fixing plant nutrients in the soil and keeping them from being washed out.

"In addition to furnishing organic matter, cover cropping has another very important advantage. In a rainy season, large quantities of materials are leached from the soil unless there are growing plants on the land. A large amount of green growth stops this loss. We have observed in our lysimeter tests that growing crops actually keep from 40 to 50 per cent of the water from going through the soil in a rainy season.

"This function could just as well be performed by non-leguminous crops if the land is fertile enough to produce a luxuriant growth. But *Crotalaria* has the ability to make a heavy growth on poor soil, and thus is more desirable."

Continued on page 26



The flower and seed heads of the *Crotalaria* are large.

best lands.

With mild winters, which permit the soil organisms to work unhampered practically all the year in tearing down organic matter and making it available as plant food, principally nitrates, and with considerable rainfall during the winter to leach these nitrates out of the soil, it is little wonder that the Southern farmer found himself with lands which had lost a good part of their fertility after having been cultivated for a few years.

**To Maintain Fertility**

What to do to stop this flow of fertility from the soil was a question that agitated agricultural investigators and farmers for some years. However, out of it came the practice of growing soil-improving crops, notably the legumes, whose roots harbor the millions of tiny bacteria which have the power of taking nitrogen from the air and fixing it for use by plants which grow in the soil. These bacteria are the original manufacturers of nitrates from the nitro-

crop under field conditions" he told me. "They are needed not only to furnish nitrogen but also to maintain in the soil a balanced condition



A Close-up view shows the rank growth of *Crotalaria*



# Over Supply Means Low Prices

In the music business the same as in the citrus business. Telling the whole truth we have just about twice the stock of pianos and musical instruments that we should have. We need the money this over supply represents more than we need the stock so we are going to sell this big surplus at ONE HALF PRICE AND LESS.

## \$150,000 STOCK TO CHOOSE FROM

### NEW & USED

#### GRANDS

#### UPRIGHT

#### STUDIO

#### PIANOS

Grand-AMPICOS-Upright  
One Half Price and Less

### Out of Town Trade Is Desired

As Florida's Largest Music House it is natural that we get the larger portion of the music business in Tampa. In order to increase our volume as we want to, however, we must have a greater volume from out of town.

We know of no group of people who should be more interested in securing the tremendous values we are offering in this advertisement than you Citrus Growers. Certainly nowhere else will your money go farther than with us during this big HALF PRICE SALE.

### INSTRUMENTS

SAXOPHONES — DRUMS  
CLARINETS — GUITARS  
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## CROTALARIA

Continued from page 24

## Two Popular Varieties

Thus the need exists for organic material in quantity. *Crotalaria* has the ability to supply this need. Of the many varieties tried, two have given most promise as cover crops in Florida and are being tested in other Southern States. These are *Crotalaria striata* and *Crotalaria spectabilis*.

The following descriptions of the two species are furnished by Mr. Stokes, the man who is largely responsible for the widespread interest in the crop. "*Striata*, the species now most widely used, is an erect growing annual, which reaches a height of six feet or more under average conditions. The stems are woody, especially as the plant advances in age. The flowers are yellow and borne in long terminal racemes, but are not as showy as are the flowers of several other *Crotalaria*s, some of which are used as ornamentals. The seeds are small and olive green to mottled brown in color. The leaves are trifoliate, the three leaflets averaging 2 inches in length and 1 1/2 inches in width. The root system is fibrous and extends to a great depth in sandy soils. *Striata* is very indeterminate in its seeding habits. Flowers, immature pods, and mature pods may be found on the same plant during entire season after seeding has started. It produces a heavy growth.

"*Spectabilis* also is an erect annual which attains a height of six feet under average conditions. The stems are not as woody, the yellow flowers are more showy, and both seeds and seedpods are larger than are those of *striata*. It has a tendency to mature more seeds at once, thus facilitating machine harvesting for seed. The leaves of this species are not divided into leaflets.

"Both species reseed well, if allowed to grow until seed are produced. Owing to the fact that a considerable number of hard-coated seeds are found in any lot of seed, often a satisfactory stand will be secured the second year after seeding, although no plants have been allowed to produce seed the first.

"From four to five months after planting are required for the production of mature seed. It seems to be this factor which limits the northern use of the crop. By obtaining a fresh supply of seed every year, it is possible that farmers in States north of Tennessee and North Carolina could grow *Crotalaria* and obtain its benefits as a cover crop. It may be that strains which mature seed more quickly will be developed, as was

done with velvet beans, making this crop accessible to more States."

*Crotalaria* seed is sown either broadcast or in rows, the former being the method most widely used. Inoculation is not necessary. It has been found by Lewis T. Leonard, legume bacteriologist of the United States Department of Agriculture, that the bacteria forming nodules on the roots of *Crotalaria* are the same as those in the nodules on cowpea roots. Also there is growing wild in Florida a dwarfed native species of *Crotalaria*, so that the inoculating organisms are widely scattered.

Why *Crotalaria*?

Why is it necessary or desirable to grow *Crotalaria*? Why can't the farmers use cowpeas, velvet beans, soybeans, and beggarweed, which have been established for years? Perfectly logical questions, these.

The answer is that certainly these other leguminous crops should continue in use. But *Crotalaria* is desirable for the reasons that it will produce more growth and result in greater amounts of organic matter and nitrogen to turn back to the soil, and that it will produce luxuriant growth on quite poor, sandy soils where many of these other crops will not grow at all, or will make very poor growth.

Mr. Stokes has found that *Crotalaria* will yield as high as 18 to 20 tons of green material to the acre, although average yields range from 5 to 15 tons. Over a five-year period on the Experiment Station farm it yielded three times as much as velvet beans, three times as much as cowpeas, four and one-half times as much as Mexican clover, (also known as Florida pursley), and over seven times as much as beggarweed.

In addition to higher yields, it carries a higher percentage of nitrogen. With the five-year average yields and the average per cent of nitrogen in each plant as bases, Mr. Stokes figures that the amount of nitrogen in each annual crop ranges about like this: *Crotalaria*, 118.4 pounds; Velvet beans, 34.6; cowpeas, 29.6; Mexican clover, 13.7; and beggarweed, 8.8 pounds. During the last four years of this same period, a test covering all of these crops except Mexican clover was run at the Citrus Experiment Station, Lake Alfred. The acre yields of nitrogen for the different crops were as follows: *Crotalaria*, 103.3 pounds; velvet beans, 47; cowpeas, 33.7; and beggarweed, 26.1 pounds.

With yields like this, and with millions of acres of poor soils crying for something to restore their lost vim,

"Please Say You Saw It In The Citrus Industry"

vigor, and vitality, it is little wonder that *Crotalaria* is forging to the front as a summer cover crop for soil building purposes. In addition to the nitrogen content of the plant, it supplies large quantities of much needed organic matter or humus to the soil. Five to fifteen tons of green material, the average annual yield of *Crotalaria*, turned into an acre of soil will result in a tremendous increase in the number of bacteria and other soil organisms necessary for plant growth. In addition, this decaying organic matter will absorb and hold moisture, making it available for the growing plants during dry weather, and will result in a more friable soil.

But after all, the acid test of a soil-improving cover crop is its ability to effect increased yields in succeeding money crops on the same land. The cover crop has cost the farmer money to produce it, and he has received no direct return. His justification for growing such a crop is its effect on the land, and, through

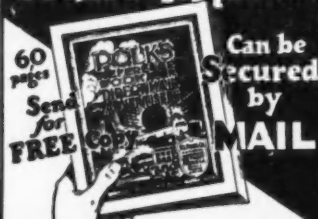
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the land, succeeding crops from which he obtains revenue. If a cover crop turned into the soil will result in yields of money crops sufficiently increased to pay the cost of the cover crops and still leave a profit, then the cover crop has been justified. How does *Crotalaria* stand up under this test?

It has proven itself to be especially good in groves and orchards. Tree crops seem able to use the plant food it furnishes, without letting a great deal of it be lost through leaching from the soil. In Florida *Crotalaria* has been grown extensively in citrus groves, pecan orchards, and tung-oil groves, and it has come through with flying colors in each case. In fact, it is in such groves and orchards that the crop largely is being planted at present.

#### Compare With Other Legumes

At the Citrus Experiment Station, Lake Alfred, Florida, *Crotalaria* is being tried in comparison with clean cultivation, velvet beans, beggarweed, cowpeas, Natal grass, and a rotation of legumes. A young grove, set five years ago, was divided into plots so that these various cover crops could be tested for their effect on tree growth. All plots have received the same fertilizing, cultivating, and other treatment except for the difference in cover cropping. The trees in the *Crotalaria* plots have made considerably more growth, in both height and circumference, than those in any other plots. In fact, the investigators declare that these trees are now receiving too much nitrogen, and they plan to reduce the quantity of nitrogen applied in the fertilizers on the *Crotalaria* plots.

Citrus growers who are using *Crotalaria* in their groves report similar results. One grower recently made the statement that he had saved \$1,000 a year or \$25 an acre in fertilizing a 40-acre grove where *Crotalaria* was grown each summer. Another grower stated that he had practically eliminated nitrogen from his grove fertilizer.

Owners of citrus groves where the trees are so big as to cover the ground almost completely, leaving little room for the growing of cover crops, are already considering plans for growing *Crotalaria* on near-by lands and hauling the cover crop on to the citrus grove. Some of them are doing that very thing this year.

This crop has been tried in pecan groves in Florida, Georgia, Alabama, and perhaps elsewhere. Florida Experiment Station workers report that this crop has a salubrious effect on tree growth. Indications are that the crop will result in increased nut pro-

duction, also, but the tests have not been running long enough for this to be definitely announced.

*Crotalaria* is grown every summer in thousands of acres of tung-oil groves near Gainesville, Florida, and helps to bring the young trees into early production, at the same time lessening the fertilizer bills in connection with the groves.

While *Crotalaria* is especially good for tree crops, field crops are not planted soon enough after the *Crotalaria* begins to decay to receive full benefit from this cover crop. Particularly is this true on sandy lands, where rapid leaching takes place. Actual tests along this line have been rather few. However, the

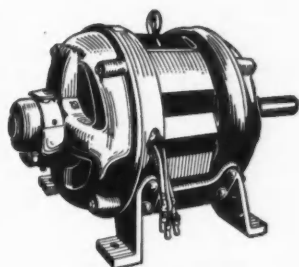
Florida Station is running more experiments on this phase.

#### Results Favor *Crotalaria*

Results of two tests have been announced by Mr. Stokes of the Florida Station. One concerns the yields of corn on some quite poor land, and shows that both velvet beans and *Crotalaria* practically doubled the yield of corn, while beggarweed and cowpeas caused a 50 per cent increase in yields, over a period of four years. Over a similar period, sweet potatoes planted where *Crotalaria* had been plowed under the preceding fall returned increased yields amounting to 40 per cent. Cowpeas, beggarweed and velvet

Continued on page 33

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**FEDERAL FARM BOARD**

Continued from page 10

that it would loan to co-operatives on the basis of stated values in the terminal markets, namely, \$1.18 at Chicago for No. 1 hard winter, \$1.25 at Minneapolis, for No. 1 northern spring, \$1.15 at Kansas City or Omaha for No. 1 hard winter, \$1.12 at Duluth for No. 1 Durum, \$1.25 at St. Louis for No. 1 red winter, \$1.21 at Galveston for No. 1 hard winter, and \$1.15 at Seattle and Portland for No. 1 western white. Grain upon which those loans were made was not required to be hedged.

"Wheat is now worth less than the amount loaned. April 22nd the Board announced it would make no more wheat loans. Do they now admit failure which seems to many of us inevitable?

"Loans on Cotton: On August 19, 1929, the Federal Farm Board announced that it had tentatively agreed to make loans to cotton co-operatives to enable them to advance a larger portion of the market price to their members. Loans were to be made, supplementary to loans from the Federal Intermediate Credit Banks, up to 90 per cent of the value of cotton which had been hedged in the futures markets. Later, additional loans were authorized, up to 75 per cent on cotton which had not been hedged.

"On October 21, the Farm Board announced that it would make loans to cotton operatives on the basis of an average of 16c in the ten designated spot markets. The Farm Board, in making these loans, did not require that the cotton be hedged, but it did require that the assets of the co-operatives, as well as the cotton, be pledged as collateral.

"Cotton is about holding its own in price.

"Please note that many of these loans were supplementary to loans made by the Intermediate Credit Banks which it is to be presumed were made up to the limit of good banking practice, since those banks were organized to aid the farmer.

"The Agricultural Marketing Act, in its intent and language violates the sound and proven rule of business, that penalty of loss much rest on the loser, as an ever-present controlling factor, in order to insure efficiency.

"The men in the great marketing and distributing businesses of this country with their enormous investments of capital in plant and organization, properly fear the working of this Act. It is evident that in the long run they cannot compete with their government, which they sup-

port and supply with funds through taxes—which taxes are used to their undoing. Are they so corrupt or anti-social and inefficient that the time has come to eliminate them? Let's give the economic law a chance to do that first. They were built up after the manner or evolution in response to demand and need. I, for one do not believe they have served their purpose and are ready to be junked. In fact, such procedure would be sheer economic waste. The present Farm Board may insist that it has no intention of eliminating these established agencies, but the fact remains that the power is placed in an administrative board to eliminate them. The placing of such a power is not in accordance with our ideas of governmental functions in this country.

**"2. Control of prices.**

"Whether the Board can control prices depends upon control of production, but even without such control they have attempted to hold up the price of wheat and cotton.

"In January, the Farmers National Grain Corporation began buying certain grades of country-run wheat in the open market, in order to prevent the price from dropping below the loan values. When the price of futures dropped definitely below the loan values in February, the volume of this buying became considerable. On February 24 the Grain Corporation announced that it would discontinue buying from concerns not affiliated with the regional co-operatives which had received loans from the Farm Board. A week later the Board announced that buying on the basis of the pegged prices would be discontinued altogether.

"The case of Copper, Rubber and Coffee already referred to show how futile this all is in opposition to the economic law operating in world markets.

**"3. Withholding from the market.**

"The Board has announced that it expects to hold 100,000,000 bushels of wheat by the time the new crop comes in, and it is also reported that its co-operatives will accept delivery of a large amount of cotton, all of which, whether done directly by the Board subsidiaries or not, is made possible by access to the Treasury of the United States. What is to be done with it?

"It overhangs the market for the new crop. The Board says frankly that if it cannot be sold without loss, that loss will have to be charged against the revolving fund from the Treasury, which brings us to the question:

**"4. Who pays the bill?**

"The setting up of what practically amounts to a new department of government under this Act, must of necessity entail increased governmental expense. I am well aware that the Act is hopeful, that under the operative agencies established a profit will be earned which will carry the load. On the other hand, many well-informed people believe that unless great care is exercised the entire revolving fund of one-half billion dollars will finally be lost, and under the express encouragement in the law itself to make loans beyond safe banking practice, to build and operate warehouses, to operate upon the open commodity markets of the world, it does not seem reasonably possible that other than loss can result, no matter how faithfully the men charged with the administration of the law perform their duties. The pressure and incentive to financial success are absent.

"Not only is there the question about the loss of the Treasury money through operations; there is also the expense of maintenance of the organization. Frankly, it has seemed to me that the Department of Agriculture as organized, could perform all of the sound functions placed on the shoulders of the Farm Board, with comparatively little additional expense. When I say sound functions, I refer to the dissemination of scientific agricultural knowledge and economic possibilities as to world production, consumption, demand and marketing. I believe the Department of Agriculture could do the work of organizing co-operatives, which would be the farmers' own co-operatives, because they would have to be financed by the farmers, not by the government.

"Now, who is going to pay the bill for this new department of government under this act? Obviously the farmers will not, because they insist they are making no profit. But the funds of the government come from taxation. Obviously, therefore, the business interests making individual and corporate tax returns, and paying taxes in accordance therewith, will pay the bill. The indirect bill resulting from the confusion in the grain distributing business the losses to farmers and all the rest of the producing and distributing community, will be distributed among us, and the amount of it no man can measure.

**Conclusion**

"The Farm Marketing Act is part and parcel of what is to me the fantastic dream, world-wide, of stabilization, with or without governmental

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# Culture of Citrus Fruits In The Gulf States

By E. D. Vosbury, Formerly Scientific Assistant, Office of Horticulture, and T. Ralph Robinson, Physiologist, Office of Horticultural Crops and Diseases, Bureau of Plant Industry

(Reprinted from Farmer's Bulletin No. 1343 U. S. Dept. of Agriculture)

(Continued from last issue)

Growers and nurserymen interested in the methods of obtaining records from parent trees and in the subject of bud selection in general can procure detailed information by writing to the Office of Horticultural Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture, or by requesting from the Office of Information, United States Department of Agriculture, Farmers' Bulletin 794, Citrus-Fruit Improvement: How to Secure and Use Tree-Performance Records.

Citrus trees for planting are usually purchased from commercial nurseries, and few growers to-day propagate their own trees. Seeds of sour-orange, rough-lemon, and other citrus fruits used as stocks are extracted from the fruits and sown in well-prepared seed beds. This sowing is usually done in December and January, except in the case of trifoliolate-orange seeds, which are more commonly sown in September and October. The seeds are sown in rows about 2 feet apart, and the young seedlings are well fertilized and cultivated until they are large enough for transplanting. When the seedlings are 1 year old and 6 to 15 inches high, or when they are 2 years old and 15 to 24 inches high, they are transplanted to nursery rows. These rows are about 4 feet apart, with the trees a foot or more apart in the rows. After one or two seasons in the nursery row the seedlings will measure half an inch in diameter at the crown, and they are then ready for budding.

Budding may be done at any season when the bark slips readily. The trifoliolate-orange stock is usually budded in the early fall ("dormant budding"); other stocks more commonly in the spring. The ordinary shield-bud method is used in much the same way as with apples and pears. Waxed cloth is commonly used for wrapping the buds. In the spring the seedling tops are cut away and the growing bud shoots are tied and staked.

When the buds have made a growth of about 30 inches they are

pinched back and thus made to branch. The budded trees are ready for planting in the permanent grove when 1 year old, although they are often left in the nursery row and sold when 2 or 3 years old. When thrifty and well grown 1-year old buds, i. e., trees that have made one season's growth in the nursery from the bud, are quite as satisfactory as

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When our season closed on April 15th it was variously estimated that from 1,200 to 1,500 cars of Florida fruit were in cold storage at various terminal markets. Very little of this fruit except that which has been Brogdexed is still in storage. Decay and shrinkage have forced its rapid withdrawal.

Cold storage men have stated that it is their belief based upon several years' experience in handling Brogdexed fruit in storage and for export that late varieties can be safely carried over for July and August markets. A number of big Brogdex shippers are of the same opinion and expect to carry a considerable quantity of their fruit now in storage for some weeks to come in anticipation of the better prices the late summer markets will afford.

Before contracting your fruit for the coming season you should investigate the advantages of Brogdex. Your packer will be glad to talk the matter over with you or information will be furnished from this office upon request.

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older trees and are usually less expensive.

Before planting, the land should be thoroughly cleared of all native growth. Occasionally some of the larger trees are left standing in order to save the expense of clearing or as shelter trees to protect the young groves from frost and sun. Such trees left in the grove, however, rob the young trees of water and plant food and seriously interfere with the ease of cultivation. Except in the extreme northern citrus regions where frost protection is of vital importance, it will be found a cheaper and much more satisfactory practice in the end to remove all the native growth and thoroughly clear the land before the grove is planted. After clearing, the land should be plowed moderately deep, harrowed and leveled, and the soil put in as good tilth as possible. It is usually advisable to fence the land as a protection from livestock.

On rich low ground an application of slaked lime or preferably wood ashes is often made after plowing, at the rate of 1,000 pounds to the acre. Ground limestone may be used instead, at the rate of 1 ton to the acre, applied a year or more before the trees are set. However, lime is of doubtful value to citrus trees in Florida, and it should not be used in large quantities, especially on light soils.

Many growers advise the sowing of a cover crop on new land the summer before the trees are planted. This is an excellent plan, as the cover crop shades the bare land from the sun, and when turned under in the fall it adds humus and greatly improves the condition of the soil. When the ground is in good condition, however, the trees may be planted at once and cover crops sown later between the tree rows.

#### Planting Season

Citrus trees may be planted at any season of the year when the wood of the trunks is firm and they can receive proper attention as to water, protection, and other care. In Florida planting is usually done either in the winter, from December 15 to February 15, or in summer after the rainy season starts. The winter is much to be preferred, as at that season the ground is cool and moist and the trees become well established before the spring drought begins.

Most nurserymen offer their customers expert assistance in the planting and care of young trees, and where the grower is inexperienced it is often an excellent plan to obtain such advice.

#### Planting Plan and Distances

Groves are usually laid out in square or oblong rectangles, with the tree rows intersecting one another at right angles.

Opinions differ greatly as to the best distance apart for planting citrus trees. No specific distance can be given, as the proper spacing depends upon the soil, the stocks on which the trees were propagated, and the variety planted. Many citrus groves have been planted too close. It is important to plant the trees far enough apart for convenience in spraying, cultivation, and other operations and so that the trees when fully grown will not shade and crowd one another.

A common distance for setting orange and grapefruit trees in Florida is 25 by 25 feet. In rich soils 30 by

30 feet is often preferred. A few growers set oranges and grapefruit 20 by 20 feet apart, or even closer, but such close planting is rarely advisable. Grapefruit trees often have a greater spread than oranges, and it is usually desirable, even on the same land, to space them at a greater distance. Tangerines are planted at the same distances as oranges. Satsuma oranges are set a little closer, frequently 20 by 20 feet or 15 by 20 feet. Lemons are usually planted 20 by 25 feet apart, limes 15 by 20 feet, and kumquats 10 by 15 feet.

Continued Next Issue

"Goin' to the fair?"

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**FEDERAL FARM BOARD**

Continued from page 28  
agency, so that every producer in every line will be assured a profit through control of production, and without the discipline of the economic law of supply and demand working through price, which eliminates the marginal producers.

"I have tried to show that interference with the economic law, by private combinations, direct governmental control, and indirect action by government through thorough tariff, tends to failure but that such interference in its attempt, brings not stability but unsettlement and distress in business, with disaster indicated, if continued.

"For myself, the conclusion has been reached, that as practical public policies, in the interest of the farmer and business alike, we should:

"1. Repeal the Agricultural Marketing Act and cease any such governmental attempts, and,

"2. Revise our tariff downward, not upward, with its elimination save in the few respects heretofore mentioned, as speedily as possible, as our ideal.

"I believe the time has come, if it is not already overdue, for the people of America to take down that

priceless heritage of the English speaking peoples of the world, the King James version of the Book of Books, and turning to the 12th chapter of the Gospel according to St. Luke, commence to read at the 16th verse:

"And he spake a parable unto them, saying, The ground of a certain rich man (the United States) brought forth plentifully: (that is the surplus).

"And he thought within himself, saying, What shall I do, because I have no room where to bestow my fruits?

"And he said, This will I do; I will pull down my barns and build greater; and there will I bestow all my fruits and my goods. (That is the withholding program.)

"And I will say to my soul, Soul, thou hast much goods laid up for many years; take thine ease, eat, drink and be merry. (That is the high price that will be realized.)

"But God (the Economic Law) said unto him, Thou fool, this night thy soul shall be required of thee."

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**CROTALARIA**

Continued from page 27

beans gave increased yields of sweet potatoes ranging from 2 to 10 per cent.

Certain of the Florida Experiment Station workers believe that *Crotalaria* can be used to advantage to precede fall, winter, and early spring truck crops, but no tests have been made to determine this point. It is believed that the leafy vegetables, which need nitrogen, would do well following *Crotalaria*.

So much for *Crotalaria* as a cover crop. That has been the principal use of the plant to date, as livestock do not relish the plants of either the *striata* or *spectabilis* species, and thus it has not been used as a forage or feed crop. However, the ground *Crotalaria* plants have been fed in comparison with alfalfa meal, and found to be worth about three-fourths as much, pound for pound, as the latter. Occasionally, stock have eaten the green *striata* and *spectabilis* plants with no ill effects, although certain species of *Crotalaria* are poisonous to animals.

Professor G. E. Richey, assistant agronomist at the Florida Experiment Station and associate agronomist of the Forage Crops Office of the United States Department of Agriculture, is testing two species which he believes have excellent forage possibilities. These are *grantiana* and *maxillaris*. Foliage of these species is sweet, in taste strongly resembling the foliage of alfalfa. The *grantiana* grows to a height of about three feet and is quite bushy, producing a tremendous amount of foliage. The *maxillaris* grows to about three and one-half feet, but is not as bushy as the other species.

*Crotalaria* has already established its place in the sun as a cover crop for soil building. It is possible that in the near future it may begin to shine equally as well as a forage crop.

### THE NEED OF ORGANIC MATTER IN FERTILIZING CITRUS TREES

Continued from page 4

Creation of a fire hazard is an objection to bringing coarse organic material into the grove. But this may be overcome in various ways. In the first place provide an ample fire guard around the outside of the grove, especially if it is adjoining woodlands or abandoned properties. More than 95 per cent of the grove fires originate outside of the grove. If mulching is practiced the entire area need not be covered at one time. Alternate middles or check rows may be kept clean enough to serve as fire guards.

**THE CITRUS INDUSTRY**

When the need of organic matter in our groves is fully realized ways and means of supplying and handling it will be worked out by each grower under his particular conditions.

Growing manure crops and hauling them into the groves will soon become a general practice in Florida. Herein lies a great opportunity for improving the quality of our citrus fruits and trees and reducing the cost of production. Organic matter, tons of it, and uniform moisture are the factors that tell in quality production.

**CLASSIFIED****Advertisements**

The rate for advertisements of this nature is only five cents per word for each insertion. You may count the number of words you have, multiply it by five, and you will have the cost of the advertisement for one insertion. Multiply this by the total number of insertions desired and you will have the total cost. This rate is so low that we cannot charge classified accounts, and would, therefore, appreciate a remittance with order. No advertisement accepted for less than 50 cents.

**REAL ESTATE**

**FOR SALE**—By owner, eighty acres, two-year-old best looking grove at reasonable price. Howey-in-the-Hills. For further information write "A. Z." P. O. Box 1261, Orlando, Florida.

**FOR SALE**—Pineapple land in winterless Florida. \$15 an acre. Almont Ake, Venus, Fla.

**WANT TO SELL HALF INTEREST IN FIFTEEN ACRE SATSUMA BEARING GROVE ON HIGHWAY NEAR PANAMA CITY.** RORT. LAMBERT, OWNER FOUNTAIN, FLA.

**SATSUMA BUDWOOD** from Bearing Trees. Hills Fruit Farm, Panama City, Fla.

**WANTED**—To hear from owner having good farm for sale. Cash price, particulars. John Black, Chippewa Falls, Wisconsin.

**AUGUST 11 FIXED AS START-  
ING DATE OF FARMERS' WEEK**

The week beginning August 11, 1930, will witness the annual trek of Florida farmers and their wives to the College of Agriculture of the University of Florida. That week has just been set for the ninth annual Farmers' and Fruit Growers' Week.

Preliminary plans for the week have just been made by the Agricultural Extension Service, assisted by the Experiment Station and teaching division of the College of Agriculture, and the State Plant Board. An interesting program is being prepared.

**MISCELLANEOUS**

**RAISE PIGEONS**—Profit and pleasure. Illustrated descriptive catalogue postage six cents. Vrana Farms, Box 314a, Clayton, Missouri.

**TUNG OIL TREES**—Cluster variety. Vigorous. Forty cents each. Lots of hundred \$5 cents each. Hunt Bros., Inc., Lake Wales, Fla.

**FOR SALE**: Splendid bearing citrus grove in Lee County, far removed from Fruit Fly infestation. Will produce 20,000 boxes coming season. If you want this grove address P. O. Box 295, Fort Myers, Fla.

**ORANGE PACKERS ATTENTION**:—Two chemical transparent flexible orange coating processes for sale; royalty or license basis. Patent pending. Dr. C. V. Berry, 251 West 111th Street, New York City.

**PUREBRED PULLETS FOR SALE**—White Leghorns and Anconas ready to ship. Barred Rocks and R. I. Reds shortly. Several hundred yearling White Leghorn hens now laying 70%. Write or wire for prices. C. A. Norman, Dr. 1440, Knoxville, Tenn.

**HIGH BLOOD PRESSURE** easily, inexpensively overcome, without drugs. Send address. Dr. J. B. Stokes, Mohawk, Fla.

**LAREDO SOY BEANS**, considered free from nematode, excellent for hay and soil improvement. Write the Baldwin County Seed Growers Association, Loxley, Alabama, for prices.

**AVOCADOS - SEED** — Grafted. Reliable bearers only. John B. Beach, West Palm Beach, Florida.

**WANTED**—To hear from owner of land for sale. O. Hawley, Baldwin, Wis.

**FOR SALE OR TRADE**—Good horse, single wagon and two sets harness. J. P. Lynch, Groveland, Fla.

**SCENIC HIGHWAY NURSERIES** has a large stock of early and late grapefruit and oranges. One, two and three year buds. This nursery has been operated since 1883 by G. H. Gibbons, Waverly, Fla.

**HOTEL HILLSBORO**

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**TOP O' THE TOWN**

European Plan, Fireproof 300 Rooms With Baths

**THE CENTER OF TAMPA**

"Please Say You Saw It in The Citrus Industry"





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If you want money—it's your banker; legal advice—your lawyer; if you're sick—it's your doctor; or if it's building—you employ an engineer, because all of these men have made life studies of their profession.

Orange Belt Representatives have just such a background. If it's fertilizer, call for the Orange Belt man. He will give you opinions based on long years of practical experience, that may be worth many dollars of net profit to you.

There is an Orange Belt Representative near you, who will be glad to help you service your grove during the Summer and assist you in any way he can in producing a crop of Quality Fruit.

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July Issue

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## Don't Be Sorry

Literally hundreds of people living in Tampa's trade territory have come to Tampa during the past month and have taken their share of the astounding values we have offered during this mammoth \$60,000 Shoe Clearance Sale of Fashionable Shoes.

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We don't sell dresses but the savings you effect even on the purchase of one pair of shoes from us during this big sale will go a long way towards buying that new dress you want. Buy two or three pairs of shoes and you will find the savings have mounted up to where you may get two new dresses if you want them.

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